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# USSR Report

## TRANSPORTATION

No. 133







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CIVIL AVIATION

RESISTANCE TO USE OF ELECTRONIC FLIGHT DATA 'RECORDERS'

Moscow VOZDUSHNYY TRANSPORT in Russian 9 Aug 83 p 3

[Article by V. Deberdeyev: "Onboard Electronic Recorders"]

[Text] The introduction of anything new, including the use of flight data interpretation, always requires careful psychological preparation of people and a certain restructuring of their attitudes. Practical work in the successful use of objective data monitoring devices in the Moscow transportation, Uzbek and a number of other administrations indicates that aircrew personnel have now become accustomed to the idea that literally on every flight an electronic recorder goes along with them.

I have often heard the following from aircraft captains, second pilots and navigators: "The main purpose of objective monitoring devices is to provide us with an opportunity of going over our flights on the ground, and of analyzing them in detail in a calm situation and highlighting our weak spots."

Practice--the best criterion of veracity--shows convincingly that the active use of objective data monitoring devices has become a vital requirement for crews. And this requirement is growing with each passing day.

Our sector faces the task of insuring the interpetation of every flight by the end of the current five-year plan. How is this task being fulfilled?

... An expressive diagram hangs on the wall of the interpretation and analysis of flight information section at the first Krasnoyarsk aviation enterprise. It shows the correlation between the number of interpretations and the number of deviations from flight standards. Thus, in 1974, when the section started this work, 123 flights were interpreted and 25 percent of them included deviations, while in 1978 the corresponding figures were 1,195 and 5.9 percent. And during the last 3 years the figures have been 12,201 interpretations and 1.26 percent deviations!

The laboratory collective, led by engineer L. Shustov, has gained rich experience. The associates have introduced a rapid-analysis method (taking only onr day) for processing Il-62 flight data, mastered a program for clarifying vertical overloads on the K3-63 instrument using the "Luch-74" digital filter device, and started an experiment in accordance with a program for rapid analysis of results from objective monitoring for Mi-8 helicopters.

Today, dozens of flight data analysis and interpretation groups are operating in all the administration enterprises. Last year they monitored 60 percent of all flights on Il-62 aircraft, one flight in five aboard the Tu-154 and L-410, one flight in four aboard the Il-76, and half of all An-24 flights. In addition, they interpreted objective flight monitoring data for 5,948 helicopter flights.

Deput chief of the Krasnoyarsk administration I. Levandovskiy told us: "We have developed and introduced technology for interpreting all flights by An-12's and Il-18's that land at ice airports serving the high-latitude expeditions in the Arctic. For this purpose, whenever an aircraft takes off bound for an ice base, a spare container with a flight information recorder is placed aboard. After landing on the ice runway it is replaced by the main, initial instrument. After the aircraft returns to the home airport, both containers are removed and the tapes are sent for interpretation. This makes it possible to stop an aircraft from flying if it has made a heavy landing during operations, and also to monitor the status of the ice runways.

LShO [Flight Navigation Dept] specialists have prepared a methodology for using objective monitoring devices applicable to local conditions. It is written there in black and white that "the main criterion for planning monitoring should be the individual approach." And it goes on to say that it (planning) starts in the aviation collective and that special attention should be paid to aircraft captains who have previous violations of or deviations from flight standards, and that additional interpretations should be planned for flights completed by those pilots who have returned from leave or after a long absence from flying, and also by junior aircraft commanders.

On paper everything is clear and precise. But what actually happens?

In accordance with existing instructions, at 1600 hours the flight subdivision is obliged to file its flight plans with the flight data interpretation section, including a list of those fliers for whom flight data is to be processed by the following day. I spent 3 days meeting with command personnel and leading workers in the laboratory. They all assured me with one voice that "these flight plans are being drawn up... They must be." But in 3 days of intensive search I never succeeded in getting sight of a single one: they were simply not there.

"And so, how in practice do you satisfy the requirements for the interpretation of flight data?" I asked senior laboratory engineer P. Tomarovskiy. "By what are you guided here?"

"We have monitoring figures by types of aircraft: what percentage of flights by each type must be interpreted each month. For us these figures are the task that we are fulfilling."

"That is, you 'are going for' the notorious 'gross figures.' And the 'products list,' in this case the character of the pilots, does not interest you."

"That is so. Because if we do not get the flight plans from the flight subdivisions we do not which flights should be processed. And so we simply remove any flight recorders from the aircraft so that we can make the required number of interpretations."

"And so the process of using objective monitoring devices is virtually unregulated with respect to middle-echelon command personnel?" I addressed this question to I. Levandovskiy.

"Yes, you could say that..."

The conclusion is obvious. In the Krasnoyarsk administration middle-echelon command personnel, who are supposed to deal directly with the crews, do not have much need to work on interpretation of data from objective monitoring devices: they do not plan it and they do not rely on the results from analysis of flight data.

And so, you ask, who does need objective flight data? Can it be only the aircrews who have a vital and personal interest in this work in order to improve their skills?

No, it is of course needed also by the upper-echelon chiefs as an integral part of the management system, as a "feedback" mechanism in the great and complicated process of aviation production.

Here, incidentally, it is apropos to touch on priority in interpretation work. Today, the following tactic is employed in this matter. If during analysis of flight data given violations of established standards are found, the interpretation rapidly starts to go up the rungs of the service ladder: from the commander of the flight subdivision to the commander of the aviation enterprise to the administration chief. From this information an "opinion" is formed, conclusions are drawn, the crew is grounded, and a diagram of the violation is drawn. Finally, a definitive evaluation is made by the latter department. And only after this are the aircraft commander and the members of the crew given an opportunity to familiarize themselves with and handle the interpretation of their own flight, and even then only as "defendants."

It is not disputed that in most cases the claims are justified. And steps are taken to help eliminate the flaws found in the crew's flight actions. But sometimes it also happens that after a careful clarification of all the circumstances of the matter the accusation is found to be in error. The truth triumphs.

This is why access to flight data interpretations by aircrews should be made easier and even encouraged. And here we have a paradox. In those flight subdivisions where they operate the "meritorious" types of aircraft--the An-24, Il-18, Yak-40 and others--any flier has the opportunity to look at his own flights for analysis purposes. But for the Il-62 and Il-86, which today represent the most complex technology in the sector and whose operation requires particularly great skills, the crews are able to gain access to flight interpretations only with the permission of the commander of the flight subdivision.

And there is yet another problem concerning the effective use of objective monitoring devices for improving flying skills and insuring flight safety.

Why are notice boards not set up in the briefing rooms to carry information on typical deviations and violations of established flight parameters found with the aid of objective monitoring devices?

For example, in this Krasnoyarsk airport, the northern landing approach from the west should be on a sharper glide path than is normal. One crew from Moscow that did not take this into account was forced to go round for a second approach.

In the future this kind of information should be brought to the attention of fliers during the preflight briefing, with the aid of display screens. But this is long term. Meanwhile...

Aviation specialists in the flying collectives, briefing rooms and subdivisions have responded quite skeptically to the idea of setting up these kinds of information boards using objective monitoring data. No special interest has been shown in the idea, with references being made to "difficulties of an organizational nature." But doing this would made it possible to improve briefings for aircrews and help them to avoid these annoying flight deviations and violations.

And what do other subdivision commanders, chiefs of flying collectives and elements and aircraft captains think about the problems of interpretation and its effective utilization?

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## INNOVATIVE AIRCRAFT SERVICING AT NOVOKUZNETSK

Moscow VOZDUSHNYY TRANSPORT in Russian 26 Jul 83 p 3

[T. Pegushchina report: "Of Interests to Specialists"]

[Text] Novokuznetsk--A device for centralized start-up of the An-2, which has now been in use for several years, is evoking lively interest among specialists flying to Novokuznetsk airport.

"The system is a calorifier installation consisting of two shaft fans and regular air-and-water radiators," the chief of the aircraft shop in the airport technical services, S. Mozel', told us. "The input rating for blowing air is about 8 cubic meters, and power is supplied from the aviation enterprise boiler shop; a feeder device is mounted in a vertical sump to create the required pressure. And that is all there is to it. The saving amounts to about R27,000 a year, not to mention the technical effect. Even in a 20-degree frost it can simultaneously heat the engines at 11 parking points for 3 hours, all at the touch of a button. [no closing quotes]

A central U-shaped air line made from a covered-type ferroconcrete design is laid at a depth of 2 meters. The hot air is fed to the parking points via pipes. The water circulates constantly. The system is extremely simple to operate and major overhauls are required only after 10-years of operation.

And here is another remarkable innovation--a combination wide-sweep machine for clearing runways, designed by jet engine mechanic G. Boychuk. In bad weather it replaces three of the well-known factory-built type TM59 machines all by itself.

What is this combination machine? Two jet engines are mounted on the chassis of a "Ural" car. One of them is mounted at the front and the other on the rear frame transverse to the base of the body. They can be swiveled through 180 degrees relative to each other. A rotating gas hose serves as the attachment and a valve makes it possible to develop a cushion of hot air. And it is this that melts the ice and creates strong vaporization, throwing the glazed ice about six meters away from the concrete. The rear power installation widens the sweep even more and clears away the water and ice powder to beyond the edge of the runway.

In summer the machine (with the valve raised) can be used as a wind pump for drying and clearing the runway. Whereas the TM-59 can clear no more than 0.8 of a hectare of concrete per hour, Boychuk's "drag" design can clear the same area in 15 minutes, and much more efficiently.

This design has one more advantage. The spacious, well-insulated cabin of the "Ural." the powerful air cushion and the unusual position of the engines on the body of the car all help to reduce noise in the cabin to such an extent that it is possible to work in it all day without wearing ear protectors. In addition, the fuel container mounted on the "Ural" chassis behind the cabin carries twice as much fuel as the TM-59, and this makes it possible to work on the runway for more than 2 hours. An extra fuel container makes it possible to work all day if required without coming off the runway (without losing time for refueling).

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CIVIL AVIATION

SCIENTISTS ON WAYS TO CONSERVE FUEL

Moscow VOZDUSHNYY TRANSPORT in Russian 23 Aug 83 pp 2-3

[Interview with scientists from the State Scientific Research Institute of Civil Aviation by correspondent V. Torishniy: "The Scientists Are Helping To Conserve Fuel"]

[Text] Just as the thought precedes the word, so before any new introduction in production there is scientific development. It goes without saying that no one will deny the role of creativity in innovators and rationalizers at the local level, for they have made no small contribution, but the main burden in the birth of leading technology, and even more so in a technology as complicated as aviation, is carried on the shoulders of science. In the CPSU Central Committee, USSR Council of Ministers and AUCCTU decree "On Strengthening Work To Reinforce Socialist Labor Discipline" it is noted that bringing unused reserves into the service of society is a most important economic and sociopolitical task.

Our correspondent V. Torishniy visted the laboratories of the State Scientific Research Institute of Civil Aviation and asked the scientists about the latest achievements of scientific thought that are helping fliers to be more thrifty with aviation fuel, and this means, with the fuel and energy resources of the entire country.

The first question was put to R. Sakach, chief of the State Scientific Research Institute of Civil Aviation.

VOZDUSHNYY TRANSPORT: Tell us, Radiy Vladimirovich, what is the main difference between the present activity of specialists at the institute and the work that was being done on conserving fuel at, say the start of the present five-year plan?

R. Sakach: Primarily its comprehensiveness. In 1980 the scientific research organizations of civil aviation, jointly with the organizations of the Ministry of the Aviation Industry, drew up a comprehensive intersector program for fuel conservation, and this has been the basis for Aeroflot's success in fulfilling

the tasks set for aviation workers by the 26th CPSU Congress in the field of conserving aviation fuel. During the first 2 years of the 11th Five-Year Plan, the reduction in the consumption of aviation fuel in the sector was up to 3.4 percent. This means that while using a smaller amount of fuel we were able to cope with a greater work volume.

Life has shown that the chain of communication from scientific laboratory to base enterprise back to the laboratory to recommendations for the entire sector brings the most tangible results.

VOZDUSHNYY TRANSPORT: Since the beginning of this year fuel consumption has been one of the main economic indicators for the activity of the aviation enterprise, and this means, yet another incentive for applying the recommendations of the sicentists at the local level. And what are the measures that are insuring reduced consumption?

S. Skripnichenko, department chief: About 2 years ago VOZDUSHNYY TRANSPORT carried a very interesting discussion on the subject of reducing aircraft cruising speeds. Pilots, navigators and scientists participated. The opinions expressed were most contradictory: from complete agreement to complete rejection. Now, no one has any doubts about this very important measure. Because, despite its apparentsimplicity, the difficulties that had to be overcome! And, unfortunately, this occurs quite often. Those actually engaged in operations, and even some officials, sometimes regard the scientists as an insignificant element that is isolated from real life. But, speaking metaphorically, science constitutes the deep roots that feed the tree of progress in our sector.

Merely by reducing the cruising speeds for the Il-62, Il-62M, Tu-154B, Tu-134, Tu-134A and Tu-134B, Yak-40 and Il-86 a great fuel saving was made, without which it would have been impossible to talk about fulfillment of sector plans, let alone overfulfillment.

I would like to return to the thought expressed by the institute chief about contacts with the enterprises operating the aircraft. It is thanks to these contacts, particularly the recommendations on reducing flying speeds, that an entire range of additions has been made. For example, differentiated recommendations were drawn up for flight conditions depending on flying weight, altitude, and wind speed and direction. And amendments to the standards for consumption of aviation fuel are impossible without close communications with the operators.

VOZDUSHNYY TRANSPORT: Thus, the scientific work has exerted a direct effect on reduced consumption...

V. Smykov, institute first deputy chief: And it will in the future, also. Associates at the scientific research institute have proposed many effective measures aimed at the rational use of fuel, and they are being introduced. Tons of kerosine are being saved by aviation enterprises that make use of our recommendations on the most favorable altitudes for cruising speeds and staged flight profiles, and optimal regimes for selecting altitude and for descending

and maneuvering in the area of airports. Economists at the aviation enterprises have posted thousnads of tons of saved fuel since the introduction of our recommendations on consumption standards. More than 75 percent of the entire equivalent savings of aviation fuel in the sector has been achieved through the introduction of a complex of similar measures to improve flight operations.

Yu. Milotov, sector chief: I would make a small reservation here. Average fuel consumption for the sector could be reduced more were it not for the passivity, to put it mildly, of some fliers with regard to fuel economy. The systematic checks that we conduct show that there are still many crews that fly at high speeds and at altitudes below those recommended, and that do not make use of our recommendations during other stages of the flight. Remaining fuel often somewhat exceeds the calculated amounts of the navigational safety margin, and this in turn prevents full realization of the fuel saving effect. In this connection, the complaint leveled at those services whose direct duty it is without any doubt to be on guard to insure that useful recommendations are complied with, and thus act in the interests of the entire sector, is quite justified.

M. Sirenko, sector chief: And it is this control, and not only this control but also more effective criteria and methods for evaluating crew work and providing incentive for crews, that are essential in the fulfillment of work carried out by crews within the national economy. Sometimes when out of touch with their base, in their eagerness to work that hectare or carry that ton of freight, pilots forget about the kilograms of fuel that have been saved and they use them to complete an extra volume of work. But the use of the most refined methods worked out by the scientists--having the An-2 fly with its flaps lowered 5 degrees, optimal methods for loading and discharging chemicals, the introduction of ultrasmall-volume sprinkling--are calculated not only to improve the quality of agricultural work but also provide no small effect in reducing fuel consumption.

VOZDUSHNYY TRANSPORT: ... Trust them but check them? And is scientific thinking at the present stage not proposing checks on the use of aviation fuel in order to solve the problem?

V. Kalinovskiy, department chief: Naturally, the scientists are not standing aloof from this urgent question. Together with the aviation and flight data interpretation sections at a number of enterprises in the sector, the State Scientific Research Institute of Civil Aviation is working intensively on methodology for the use of data from known MSRP [expansion unknown] instruments in order to solve problems involving reductions in fuel consumption. We think that these recorders can provide sufficiently complete information and objective data on actual consumption under various operating conditions. Information recorded on magnetic tape is easy to use in modern computers. And the use of computers makes it possible to resolve tasks that require extremely large amounts of statistical data.

VOZDUSHNYY TRANSPORT: Do you have any results yet?

S. Skripnichenko: In essence the configuration of this automated data acquisition, processing and analyzing system for fuel consumption during flight has been

precisely determined; its development is our final goal as a basis for standardizing and monitoring fuel consumption.

For the Tu-154 and Il-62 programs have been written and sent to the aviation enterprises for processing this kind of information using the Luch-74 instruments. Think how convenient this is: not to have data acquistion from flight tasks but an objective picture for the enterprise printed out by a computer. This is the first level. The second is to process and analyze results here in the institute with the aid of the powerful Yes-1033 computer. Of course, the generalizations, conclusions and progressive standards will be made available thoughout the sector.

Yu. Slesarev, sector chief: I would like to add that at this time we have processed data from more than 3,500 flights by the Tu-154 and almost 500 for the Il-62. Analysis has already yielded interesting results and made us think about some things in a fundamental way. For example, it showed that cancelling the obligatory preflight engine warm-up led to a reduction in fuel consumption on the ground of the order of 300 kilograms per flight. And in Leningrad and Baku, the reduction was more than 400 kilograms, which indicates that other effective measures are being implemented there.

V. Kalinovskiy: Just the same, it should be noted that whereas the acquistion of data on fuel consumption is relatively good and is constantly being improved, with regard to analysis this unfortunately cannot be said. The question of who should analyze the data and make the decisions on this basis at the aviation enterprises has still not been decided. This is done most often by the chief engineers of the flight subdivisions, and moreover, mostly on the basis of personal initiative. Meanwhile, much time is required to consider and systematize data.

VOZDUSHNYY TRANSPORT: What do you see as the solution?

V. Kalinovskiy: I think that the urgency of the problem of conserving fuel and the value of the information obtained with the aid of MSRP deserve the creation, at least at the largest enterprises in the sector, of small specialist groups to analyze data on fuel consumption and draw up recommendations to reduce it. As far as can be seen, without this no substantial advances can be expected in this direction.

VOZDUSHNYY TRANSPORT: Up to now we have been talking primarily about flying and the participation of scientists in reducing fuel consumption in the air. Could we come down to earth for a while?

A. Shiukov, department chief: We often hear the notorious opinion that the "ground," so they say, is lagging behind the "sky." I cannot agree with this. In any event, scientists in the sector give the question of conserving fuel during technical operations and airport servicing their most close attention. We have the figures and have shown that reducing checkout flights after servicing is quite permissible and leads to considerable fuel economies. The possibility of replacing kerosene and benzene with chemical reagents in a number of technical servicing operations has been confirmed both experimentally and in practice.

Improved detergent fluids capable of significantly improving the quality of the external surface, and this means the aerodynamics of aircraft, have been introduced. Considerable amounts of kerosene are burned in heat engines when they are used for clearing runways. But chemical reagents are available that offer the same and even better effects. At some airports centralized refueling systems are operated and they virtually eliminate losses at this stage. And this is by no means a complete list of the "ground measures" to save fuel and lubricants. The thing is to introduce them everywhere in the sector subdivisions, without exception. But here, unfortunately, the most unexpected obstacles hamper the road to progress. Right down to the resistance from stereotype thinking and the inertia of some managers at the local level.

VOZDUSHNYY TRANSPORT: But, obviously there are difficulties not only at the interface between the scientific wings and production, are there not?

V. Smykov: And these are primarily difficulties of an organizational nature. It is essential that at a very minimum, all planning for scientific research work by sector institutes on the fuel question be carried out with mandatory agreement with the head institute, that is, the State Scientific Research Institute of Civil Aviation.

It should also be added that there are difficulties in providing support for the new scientific directions that include fuel conservation from the complement of workers and the laboratory base, because shortages are leading to a situation in which it is not possible to deal with all matters in good time at the level required; and the load on our scientists engaged in this subject is considerably greater than on scientific associates working along traditional avenues.

Yu. Milotov: There are also difficulties with obtaining objective information. The MSRP instruments aboard aircraft are of course fine. But they do not provide the data we need for research on all aircraft and helicopters. How is this? Previously, the scientific workers obtained this information directly during flights. Now certain difficulties have been created for us. But why? For visual observations on operating features that affect fuel consumption can bring nothing but advantage.

VOZDUSHNYY TRANSPORT: The advantage is quite clear; scientific work in the field of fuel economies leads to colossal advantages. But life does not stand still and science must somehow try to outstrip it. What are the main tasks facing the sector's scientific organizations in the immediate future?

R. Sakach: Apart from further work to improve conditions for flight operations it is essential to develop work on the creation and introduction of improved automated systems. These should include automated navigational computing systems, onboard systems for optimizing flight conditions, and automated systems for acquiring and analyzing data on fuel consumption.

It is necessary to develop work broadly jointly with the organizations of the Ministry of the Aviation Industry to update the aircraft being operated and in series production, and to conduct conservation work at the major airports, including improvements to the taxiways and runways, the introduction of ground conditioning units, improvements in air space zones and other measures.

The scientific research organizations face great and crucial tasks and, by participating in the common approach to thrift, the scientists have done much and are doing much to help our sector fulfill the stepped-up plans of the five-year plan.

* * * * *

From the editor: And so, the opinion of the scientists is clear. The comprehensiveness of research on the possibilities of saving fuel and lubricants and close contacts between science and production constitute the guarantee of success for the developments of the specialists in the matter of rational use of fuel. But as has been seen, not everything is going smoothly. The editor invites all interested subdivsions and services in the sector and all readers to conduct a discussion on the pages of this newspaper on questions arising at the interface betwen the elements of scientific research and introduction in operations, and on problems facing the aviation enterprises in assimilating the new technologies. We think that a discussion on this subject will be useful for everyone.

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## BRATSK, BARNAUL AIRPORTS SENDING PLANES ELSEWHERE FOR REFUELING

Moscow VOZDUSHNYY TRANSPORT in Russian 27 Aug 83 p 2

[Article by second pilot V. Nedashkovskiy: "Expensive Inefficiency"]

[Text] A struggle to save fuel is being waged in the sector. But how can this be connected with the fact that as soon as the summer period begins, as a rule the red tape starts at the Bratsk and Barnaul airports about refueling scheduled flights. And so they send the aircraft from Bratsk to Irkutsk and from Barnaul to Novosibirsk (Tolmachevo) for refueling.

Thus, for example, in just one day, or more precisely one 24-hour period, 24 June, seven Tu-154's on scheduled flights 7266 (Vladivostok-Kiev), 145 (Moscow-Bratsk), 3843 and 3846 (Khabarovsk--Alma-Ata), and 220, 222 and 218 (Barnaul-Moscow) were sent from Barnaul to Tolmachevo for refueling.

The simplest calculation shows that about five tons of fuel are needed to fly from Barnaul to Tolmachevo. This means that in one day 35 tons of kerosene were burned virtually for nothing. The question is: on whose account is this overconsumption posted? For a month at this kind of rate means that more than 1,000 tons are "poured away."

To put it mildy, we pilots are astonished at this state of affairs. The more so since virtually no one is responsible for this overconsumption of fuel. And in addition to the unnecessary use of fuel, consideration should also be given to the ordeal of the passengers, for whom in such cases there is not even room to sit down in the airport buildings (not to mention hotels). Moreover, the crews have to work extra time, which in turn also causes flight delays. At the refueling airport (Tolmachevo) there is an enormous increase in work for aviation technicians, air traffic control, and workers in the freight service.

As we see it, a quite legitimate question arises: if, indeed, someone has made a mistake in calculating the fuel reserves required at Barnaul airport, then is it so difficult to correct this error more easily and economically by delivering kerosene from this same Novosibirsk to Barnaul by rail?

Finally, I would like an intelligible answer to this question: who should carry the ultimate responsibility for this inefficiency, which is very costly for the state?

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CIVIL AVIATION

## PASSENGER SERVICES AT IVANOVO AIRPORT DEPLORED

Moscow VOZDUSHNYY TRANSPORT in Russian 30 Aug 83 p 1

[Article by L. Melnis, Tu-134 flight engineer, chairman of the council of public inspectors for air safety at the Riga aviation enterprise: "Delayed Construction"]

[Text] I do not know the wit who "thought up" the widespread joke about the passenger services at Ivanovo airport ("There are good airports, there are average airports, and there are bad airports. And then there is Ivanovo"), but I fully support him: no one provides worse services than the people at Ivanovo. And I have been convinced of this for years.

The picture is always like this: the aircraft taxis away to the parking area and those passengers for whom Ivanovo is their final destination unload and go into the airport. And during refueling, transit passengers are let out for a "stroll" around the airfield.

This is fine if the sun is shining and it is warm. But what about the "open air" in a January frost, or in the rain? I would not like to be in those passengers' places. But I cannot help them. The only way is to refuel more quickly. But this does not depend on me, I am only the flight engineer. And there is a procedure that no one must violate.

Naturally, I am sorry for the poor passengers. But on the other hand, they cause annoyance: people simply jump out onto the airfield and crowd curiously around the aircraft parked nearby. For me personally, a public air safety inspector, this kind of free and easy activity is not at all to my liking. It is just asking for trouble. But it does not particularly worry the Ivanovo aviation workers.

... I have been making transit flights through Ivanovo since 1978. And I always see the construction site for the airport buildings across on a neigboring ramp. And everytime I see it the words of the well-known song come into my head: "whatever you were, so you will remain..." This construction site has been there for 7 years...

I do not know what forces are delaying the construction. It is possible that there are objective reasons, as they say. But I think that the passengers

have nothing to do with it, for even the most respectable of reasons will not put a roof over their heads.

* * * * *

The editor also voices the question raised by flight engineer L. Melnis, and awaits an answer from the management of the Ivanovo aviation enterprise. When will construction be completed on the airport buildings there? When will the "strolls" by transit passengers on the airfield come to an end?

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CIVIL AVIATION

## 'AVIAEKSPORT' GENERAL DIRECTOR ON 'AVIAEKSPORT', 'AVIAREMONT' ACTIVITIES

Moscow VOZDUSHNYY TRANSPORT in Russian 1 Sep 83 p 3

[Interview with V. Studenikin, "Aviaeksport" general director, by VOZDUSHNYY TRANSPORT correspondent Ye. Baulin: "'Aviaeksport's' Broad Program"; date and space not specified]

> [Text] Many foreign aviation companies are operating Soviet aviation equipment. Each year hundreds of aircraft and helicopters are sent abroad under the terms of contracts concluded with foreign aviation companies. The all-union "Aviaeksport" association is engaged in organizing the sale of this equipment.
>
> Our correspondent Ye. Baulin talks with general director of the all-union "Aviaeksport" association V. Studenikin.

[Question] Vasiliy Savel'yevich, please describe your organization for VOZDUSHNYY TRANSPORT readers.

[Answer] The all-union "Aviaeksport" association was set up in 1961 to organize the sale of Soviet aircraft in the world market. Since its creation the association has supplied firms and organizations in 55 countries with more than 4,500 aircraft and helicopters. They include the intercontinental Il-62 and Il-62M for the Cubana de Aviacion aviation company (Cuba), Interflug (GDR), LOT (Poland, ChSA (Czechoslovakia), and TAROM (Romania). Tu-154 and Tu-154B aircraft fly on routes operated by the "Balkan" aviation company (Bulgaria), MALEV (Hungary), TAROM, and "Choson Minkhang" (DPRK). About 1,000 "An" aircraft and 100 Tu-134 and Tu-134A aircraft have been exported. Foreign firms and organizations have purchased more than 2,000 Mi-4, Mi-6, Mi-8, Ka-26 and other helicopters.

[Question] Is your association engaged only in the export of aircraft and associated equipment?

[Answer] No. "Aviaeksport" provides periodic servicing and major overhauls for aircraft at enterprises in the USSR, training and retraining for air and ground technical personnel of foreign aviation companies at the training centers of the USSR Ministry of Civil Aviation, and training periods for

foreign specialists at aviation-technical bases and repair plants in the USSR. It cooperates in organizing training classes and bases for the technical servicing of Soviet aircraft directly in the purchaser's country, sends consultants to help in familiarization with Soviet aircraft and training for national personnel, and participates jointly with Soviet industry in international cooperation to produce aircraft and aviation equipment.

[Question] It is the organizations of the Ministry of Civil Aviation, is it not, that are your partners in this work?

[Answer] Yes. As "Aviaeksport" took its first steps in the world market, one of the priority tasks to be solved was that of organizing technical servicing and major overhauls for aircraft sold abroad. Enterprises of the Soviet Aeroflot aviation company made it possible to create a solid base for repairing the equipment of our foreign clients.

As a rule, major overhauls for aircraft purchased from "Aviaeksport" by foreign aviation companies are done at enterprises of the all-union state "Aviaremont" association under the USSR Ministry of Civil Aviation. The leading enterprises of this association carry out repairs under the terms of contracts concluded with foreign purchasers by the "Aeroremont" firm, which is part of "Aviaeksport."

During the period 1975-1980 civil aviation enterprises carried out repairs for foreign clients on more than 700 aircraft, about 300 helicopters, and several thousand aero engines. Every other An-24, one An-26 in three, one Il-62 in four, and one Ka-26 in five repaired at "Aviaremont" enterprises belong to foreign operating organizations. During the last 5 years the volume of aircraft repair work in "Aviaeksport" contracts has almost doubled. A constant trend is being observed toward an increased volume of repairs done for our foreign partners and in renewal of the inventory of Soviet aircraft and helicopters operated by foreign aviation companies, and the products list for aircraft sent to the USSR for major overhauls is growing. An-2, An-24, An-26, An-30, Yak-40, Tu-134, Tu-154, Il-14, Il-18 and Il-62 aircraft and Mi-6, Mi-8 and Ka-26 helicopters, and engines for them, are now sent for repair in the USSR from more than 20 countries.

Each year about 300 foreign specialists undergo production-technical training at "Aviaremont" plants.

"Aviaremont" also provides aid for aviation companies that want to organize major overhauls of aircraft using their own resources, and it prepares technical documentation and sends out the best specialists, who help with on site familiarization for repairs. Enterprises built up with the participation of "Aviaremont" specialists are operating in Hungary, Bulgaria, Romania and the GDR.

[Question] How do you assess the work done by "Aviaremont" in fulfilling orders from foreign aviation companies?

[Answer] Foreign clients speak highly of the quality of repairs, which is indicated by the numerous kind testimonials. One positive fact that should

be mentioned is that the services offered by our organizations are not restricted to carrying out major overhauls. Clients sometimes make requests for partial reequipping of an aircraft or modifications to its configuration, or for other kinds of work. These wishes are all taken into account. Let me give you some examples.

The Bykovo aviation repair plant converted several Il-18 aircraft for the Interflug (GDR), "Balkan" (Bulgaria) and LOT (Poland) aviation companies from passenger versions to freighters.

The Minsk plant fulfilled an order from Interflug (GDR) to convert two Tu-134's from the "saloon" version to a 76-passenger version.

The Kiev plant carried out an increased volume of work on aircraft at the request of clients in connection with erosion of the center section of the wing [tsentroplan] and the subfloor part of the fuselage (podpol'naya chast' fyuzelyazha].

The fact that, at the client's request, during repair on aircraft new and more up-to-date equipment is installed, meets with special approval. As a result, the technical performance of the refitted aircraft is improved.

[Question] Can you say something about the prospects for the constantly growing international cooperation in matters of equipment repair?

[Answer] The obligations of the organizations of the socialist countries in the field of aviation equipment repair are defined in the "Agreement on Multilateral Specialization in the Repair of Aircraft, Aero Engines and Assemblies" operating within the framework of the CEMA Permanent Commission on Transportation. It was signed in 1975 by Bulgaria, Hungary, the GDR, Cuba, Mongolia, Poland, Romania, the Soviet Union and Czechoslovakia.

The need for such an agreement stemmed from the variety of aircraft types being operated, a desire to make rational use of each country's material and labor resources, and the constantly growing demands to reduce the time that aircraft spend being repaired.

Under the terms of the agreement on repair specialization, large Soviet-made turbojets are repaired in the USSR, turboprops are repaired in the USSR and Romania, Mi-2 helicopters in Bulgaria, Poland and the GDR, Mi-6 helicopters in the USSR, and the multipurpose An-2 in the USSR, Bulgaria and Romania.

With each passing year the volume of aviation repair work done in the CEMA countries is increasing. The range of questions covered by the "Agreement on Multilateral International Specialization in Aviation Equipment Repair" is expanding. The requirements of particpating countries for repair of civilian aircraft and who will do the work have been determined for the period through 1990, and a corresponding development of production capacities is planned.

[Question] As you have already mentioned, "Aviaeksport" cooperation with the organizations of the Ministry of Civil Aviation in the field of providing services for the operation of Soviet aircraft delivered to foreign partners is not restricted only to repairs. How else is this cooperation seen?

[Answer] The organizations of the Ministry of Civil Aviation also help "Aviaeksport" in other areas providing support for the operation of aircraft by foreign aviation companies. On orders from "Aviaeksport," routine servicing of Il-62, Il-76, An-24, Tu-154 and Yak-40 aircraft belonging to foreign aviation companies is done at the aviation-technical bases of the Ministry of Civil Aviation. In 1982 alone, routine servicing of 98 aircraft from 17 countires was done in the USSR.

We might also mention the training of national personnel for aviation comanies operating Soviet aircraft. More than 1,600 specialists from 16 countries are at present studying in the schools and other training establishments of the Ministry of Civil Aviation.

In conclusion I would like to note that the work to sell Soviet aviation equipment in the world market, the organization of servicing, and expansion of the range of other services offered are built on the basis of mutual advantage. This work promotes the development of civil aviation in the socialist and developing countries and strengthens friendly relations between peoples, and it is yet another practical confirmation of the peace-loving policy that our country pursues.

9642
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## MOTOR VEHICLE INDUSTRY TO INCREASE CONSUMER GOODS PRODUCTION

Moscow EKONOMICHESKAYA GAZETA in Russian No 24, Jun 82 p 4

[Article by Chief of the Consumer Goods Department of the Ministry of the Automotive Industry V. Prokopenko: "This Year Enterprises of the Automotive Industry Are Providing Tens of Millions of Rubles Additionally for Consumer Goods"]

[Text] One hundred and twenty-nine industrial associations and enterprises in the system of the Ministry of the Automotive Industry are engaged in the production of goods for cultural and personal purposes and for household use. Practically all plants of the branch, with the exception of 19 bearing and repair and small experimental design ones, are producing consumer items. But for the nearest term they will start manufacturing commodities as well.

The branch is supplying commodities of 1,000 descriptions for sale to the population. Approximately 50 items are being developed and modernized now. The ministry attaches particular importance to saturating the market with high quality commodities carrying the "N" index. The Khar'kov bicycle plant is producing "Novinka" travelling bicycles which have won popularity among customers. This year the Ul'yanovsk motor plant began producing the "Sviyaga" motorized pump. It's good for watering. The designers are making it their aim to produce a more universal unit and to adapt it, for example, to operate with a circular saw.

In the decree of the CPSU Central Committee and the USSR Council of Ministers "Additional Measures for Improvement in Providing the Population With Consumer Goods in 1983-1985" it talked about the importance of establishing specialized shops and sections at each enterprise. The correctness of this course is confirmed by the experience of our branch. In it there are 10 plants and 18 specialized shops engaged exclusively in producing consumer goods. Among them are the Irbit and Kiev motorcycle plants; the Atig, Zhukovka, and Khar'kov bicycle plants; and the household refrigerator shop at the Moscow Automotive Plant imeni Likhachev. Refrigerators with the "ZIL" trademark have a reputation in the country for their high quality and reliability. The specialized shop of the automotive plant annually produces more than 125,000 refrigerators. The automotive plant workers now are preparing to assimilate production of the ZIL-65 triple-compartment refrigerator.

The specialized plants and shops are supplying 47 percent of the total quantity of consumer goods entering the trade network from enterprises of the Ministry of the Automotive Industry. A progressive production method was established at them for manufacturing motorcycles, bicycles, and other items. They are equipped with modern equipment and they have a skilled labor force at their disposal. Their experience once again confirms the economic expediency of organizing similar shops and sections at all major plants to manufacture items for cultural and personal purposes.

Last year the automotive builders supported the initiative of the Muscovites and the people of Sverdlovsk towards improving the production volume of consumer goods for the purpose of their providing personal monetary incomes. The construction and technical retooling of specialized shops and sections are spreading now at the branch's enterprises. Long-term credits are serving as the basic source for financing. There are good examples of production development, expansions of product variety, and improvement in the quality of goods. In the correspondence "When the Approach is Full of Initiative" printed in issue number 10 of "EKONOMICHESKAYA GAZETA" for this year, it told in detail about the contribution of the Moscow Automotive Plant imeni Leninskiy Komsomol (AZLK) in replenishing commodity resources in the country and raising the standard of living of the Soviet people. One ruble's worth of the wage fund here produces 1 ruble and 12 kopecks' worth of goods for sale to the population.

A number of the branch's enterprises are not inferior to AZLK according to an indicator of that kind. In the first place, plants engaged in the output of spare parts and electrical equipment for passenger cars belonging to individual owners are in that group. Thus, the Volga Automotive Plant produces 95 kopecks' worth of goods for 1 ruble's worth of the wage fund, Vladimir's "Avtopribor" produces 1.2 rubles' worth of goods, and the Moscow Plant for Automotive and Tractor Electrical Equipment imeni 60th Anniversary of the October Revolution produces 2.4 rubles' worth of goods.

However, at a majority of the enterprises of the Minsitry of the Automotive Industry items for cultural and personal use are manufactured in nonspecialized areas and on equipment intended for the output of basic production--heavy trucks, heavy-duty diesel engines, tractor trailers, and so forth. The production index of goods per ruble of the wage fund at these plants is extremely low and one cannot consider it sufficient. In particular, the Minsk and Ural'sk automotive plants and the Yaroslavl' motor plant belong to this group. In the decree of the CPSU Central Committee and the USSR Council of Ministers it was pointed out that ministries and departments are slowly reorganizing their operations in light of requirements of the party and the government to increase production and improve the variety and quality of consumer goods. This criticism also concerns the Ministry of the Automotive Industry.

An additional production quota of 81 million rubles' worth of goods for the market was established for the automotive industry in the current year. The ministry distributed this quota among the industrial associations and plants with regard to resources for increasing the output of items with improved

consumer properties. Measures have been outlined to eliminate the scarcity of spare parts for passenger cars and heavy-duty motorcycles.

The leading scientific research institutes and SKB [special design bureaus] for various kinds of products are tied into preparing for the production of new kinds of consumer goods. The ministry took under its own supervision the fulfillment by the enterprises of the quotas received.

9889
CSO: 1829/384

# ELABORATION OF SOME PROCEDURES FOR HAZARDOUS CARGO TRANSPORT

Moscow AVTOMOBIL'NYY TRANSPORT in Russian No 7, Jul 83 pp 19-21

/Article by L. Kochetov and V. Reznikov (USSR VNIIBD MVD) /USSR All-Union Scientific-Research Institute for Traffic Safety of the Ministry of Internal Affairs/: "Characteristics of Hauling Hazardous Cargoes"/

[Text] In order to ensure the safety of highway traffic, as well as that of the population, in the hauling of hazardous cargoes, as well as in the interests of environmental protection, beginning on 1 March 1981, the "Instruction on the Procedure for Hauling Hazardous Cargoes by Truck Transport" has been in effect. It was coordinated with many concerned ministries and departments, and it was approved by the USSR Ministry of Internal Affairs.

The principal points of this Instruction were set forth in the article entitled "New Regulations for Hauling Hazardous Cargoes," as published in this journal.[1] During the past two years questions have arisen which require explanations and recommendations. That is why we need to return to this topic.

One of the difficulties in working with hazardous cargoes lies in the fact that, because of the lack of appropriate literature in the localities, many freight dispatchers and truck drivers are not able to determine whether certain substances belong in the hazardous category, and if they do, then to what class (or sub-class).

The relegation of substances and objects to the hazardous category and their classification are determined on the basis of GOST 19433--81 "Hazardous Cargoes. Classification. Danger Signs," as put into effect on 1 January 1982. It replaced the earlier GOST 19433--74 "Hazardous Cargoes. Classification and Danger Signs."

The new GOST introduced certain changes in the classification of hazardous cargoes. Thus, infectious substances are relegated to the 7th class (sub-class 7.2), whereas previously they had belonged to the 6th class (sub-class 6.2).

Explosive substances (1st class) used to be divided into four sub-classes, while now they are divided into five sub-classes. Poisonous (toxic) substances are divided into two sub-classes (6.1 and 6.2), while formerly they were relegated to one sub-class (6.1). Radioactive substances are relegated to one sub-class (7.1) instead of three sub-classes. Substances of the 9th class used to be divided into four sub-classes, while now they are relegated to two sub-classes.

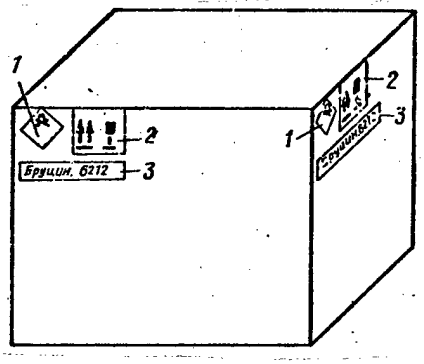
The GOST previously in effect provided for the division of hazardous cargoes only into classes and sub-classes. In accordance with the new GOST, hazardous cargoes are relegated to a class, sub-class, category, and group according to the signs and criteria of classification which are indicated therein.

The new GOST also specifies the procedure for placing danger signs on a transport container and the arrangement of markings (see figure). If the cargo has more than one type of danger, then several danger signs are placed on the container. The number of the class (or sub-class) on the sign indicates only the dangers of that class to which the cargo has been relegated. For substances of sub-classes 1.4, 1.5, 6.2, and 7.2 new danger signs have been introduced.

The transport container and the accompanying documents indicate the correct technical designation of the cargo and the classification code number of the group to which the cargo has been relegated. This point does not extend to a container with hazardous cargoes of the 1st class.

In transporting containers with hazardous cargoes by means of truck transport, the danger signs must be put in the places provided for by the regulations for hauling hazardous cargoes in this form of transport.

The GOST states that the size and arrangement of the danger signs on the means of transport must be such that they are visible to the emergency-rescue service. This requirement is satisfied by the information placard of the




Marking of a Transport Container in Which a Hazardous Cargo Has Been Packed: 1--danger signs; 2--handling signs (in accordance with GOST 14192--77); 3--designation of the hazardous cargo, group code classification number

information system, the description of which is cited in the "Instruction on the Procedure for Hauling Hazardous Cargoes by Truck Transport," as well as in the article published earlier. In addition to this, other danger signs may be placed on means of transport in cases of necessity. If the means of transport consists of two or more parts (sections) and various types of hazardous cargoes are being hauled in them, then the danger signs are to be placed on each part (section).

The USSR VNIIBD MVD, taking into consideration the numerous requests of organizations and enterprises carrying out hauls of hazardous cargoes, has worked out a list of hazardous cargoes being hauled most frequently by motor-vehicle transport. Indicated therein are the basic designations, classes, and sub-classes as well as special numbers. This list includes approximately a thousand hazardous substances and objects. It has been sent to all ministries and departments under the title "Methodological Recommendations for the Application of the 'Instruction on the Procedure for Hauling Hazardous Cargoes by Truck Transport'."

The hauling of hazardous cargoes must be carried out in accordance with the "Instruction on the Procedure for Hauling Hazardous Cargoes by Truck Transport," as well as on the basis of the regulations or technical specifications for the hauling of a specific type or group of hazardous cargoes. These documents are drawn up by the producers of hazardous cargoes.

Such a procedure has been introduced in connection with the fact that a producer of a hazardous cargo has at his disposal all the necessary information about its properties and the conditions for its safe transportation. However, because of production needs, the organizations responsible for hauling may also be drawn into this matter.

In all cases the regulations (technical specifications) are approved by the ministry in charge of the enterprise producing the hazardous cargo, and only after this are they sent on for coordination to the USSR VNIIBD MVD. The regulations for hauling explosive materials and strong caustic substances (SDYaV) must also be coordinated with the USSR MVD Main Administration for the Maintenance of Public Order (USSR MVD GUOOP).

The list of strong caustic substances was approved by the USSR Ministry of Health and the USSR Council of Ministers State Committee for Chemistry in December 1961. Included among these substances are the following: mercuric chloride, prussic acid, the salts of prussic acid, yellow phosphorus, nicotine, strychnine, chlorpicrin, carbon disulfide, and other substances.

Analysis of the letters being sent to the VNIIBD and the documents being sent in for coordination testifies to the fact that definite difficulties are being encountered in working out the regulations for the hauling of specific hazardous cargoes. Therefore, we consider it necessary to propose certain recommendations with regard to this problem.

The regulations (technical specifications) must make it mandatory to set forth all the problems enumerated in Appendix No 1 to the Instruction. In drawing up this document for a group of hazardous substances which have closely related properties, indication is given of their technical designation, synonyms, class, sub-class, category, group, as well as the physical and chemical properties of each substance. This list of data is provided for in GOST 19433--81, and it is somewhat broader than it is in the Instruction, which was approved long before this standard was put into effect.

It is extremely important to indicate the minimum weight of a substance or the number of packages to be hauled on one transport means. Dependent on this are the correct classification of the type of haul, as well as the delivery of a hazardous or non-hazardous cargo (with the observation of the appropriate requirements with regard to the container, packing, and marking).

For example, in the regulations pertaining to the hauling of liquefied hydrocarbon fuel gasses, as approved by the Glavgaz of the RSFSR Ministry of Housing and Municipal Services and coordinated with the USSR VNIIBD MVD, this means that the delivery of two cylinders containing as much as 100 kg of gas each on a vehicle which is using liquefied hydrocarbon gas as a fuel, as well as the hauling in a special vehicle used for emergency-rescue work of three cylinders with a total amount of liquefied gas in them of no more than 75 kg, is considered to be hauling a non-hazardous cargo.

It is also necessary that we cite the maximum weight of the substance or the weight of one package and the maximum number of them which may be hauled on one transport means. This requirement has been brought about by the necessity for reducing the danger of the consequences as a result of a highway-transport or other accident.

Data concerning the hazardous substances and objects, as well as the codes for emergency measures (KEM) are indicated by the manufacturers or the transport workers in agreement with them, based on the GOST's, OST's, and technical specifications for specific hazardous substances and objects.

The type of transport means is determined by proceeding from the type of the hazardous cargo, its physical and chemical properties, and the container (packing). Hazardous solid substances can be hauled without packing (bulk shipment) in the body of the vehicle or in containers; granular and pulverized hazardous solid substances can be hauled in stationary and removable tanks; while liquid and gaseous hazardous substances can be hauled in stationary and removable tanks, in container-tanks, or in sets of vessels.

The Regulations have established requirements for the body of the vehicle: enclosed, covered with a tarpaulin, or open. In cases where a hazardous cargo is being hauled in a transport means having a stationary or removable tank, requirements are indicated for it, or a stipulation is made, that the design and technical condition of the tank must correspond to the conditions set forth in the normative document (its designation is cited here). We

should also point out that the motor vehicle cannot have more than one trailer or semi-trailer.

In determining the necessary additional equipment or re-equipment of transport means, we must proceed, first of all, from the fire- and explosion-safety aspects, as well as the safety for the living organisms of the cargo to be hauled. Inasmuch as every class of cargo has substances with a differing degree of this safety, the requirements set forth in Points 4.2, 4.3, 4.4, 4.5, and 4.8 of the Instruction cannot be applied in certain instances of hauling specific hazardous cargoes (for example, in delivering non-inflammable gasses).

The re-equipment (additional equipment) provided for by the Instruction does not make any substantial changes in the design of the motor vehicle, and it can be carried out in the repair workshops of the automotive-transport enterprises of the ministries and departments. It is desirable that this work be performed in accordance with the technical documents in the possession of the enterprises which turn out specialized motor vehicles.[3]

It is also necessary to explain certain questions pertaining to the information systems about safety (SIO).

Within the Regulations (technical specifications) it is feasible to cite in the form of appendices an emergency chart and an information table with all the necessary data. If the Regulations (technical specifications) are drawn up for the hauling of several hazardous substances, then the emergency chart and information table should be drawn up for each hazardous substance. We must bear in mind that, in hauling several hazardous substances on one transport means (if this is allowed by the normative documents), the driver or the person accompanying him must have an emergency chart for each substance, whereas the information table indicates data about the most dangerous substance.

Sources for obtaining the data necessary for filling out the emergency charts and for putting data onto the information tables can include the following: data from the manufacturers of the hazardous cargoes, the appropriate GOST's, the Regulations for the Maritime Hauling of Hazardous Cargoes (MOPOG), recommendations by a committee of UN experts on the hauling of hazardous cargoes and the methodological recommendations on applying the "Instruction on the Procedure for Hauling Hazardous Cargoes by Truck Transport."

We must not forget to cite the key to the codes of emergency measures (KEM) nor to indicate the color of the backgrounds of the left-hand and right-hand portions of the information table, as well as the background of the danger sign. This may be accomplished in the section entitled "Information System about Safety" or under the drawings of the models in the information tables.

As practical experience has shown, many receivers of cargoes lack the possibility of making their own information tables. Therefore, in certain cases brought about by production needs, provisions must be made to have this work carried out by those hauling the hazardous cargoes or by their manufacturers.

As of the present time, the following have already been worked out and coordinated: Regulations for Hauling Cyanides, Instruction on the Hauling of Radioactive Substances (developed by the All-Union Izotop Association), Regulations for Hauling Liquefied Hydrocarbon Fuel Gasses for Communal-Everyday Needs (Giproniigaz Institute of the RSFSR Ministry of Housing and Municipal Services), the Regulations for Hauling Mineral Fertilizers and Chemical Herbicides (VNIPIagrokhim of the USSR Ministry of Agriculture), and the Regulations for Hauling Liquid Ammonia (the All-Union Soyuzsel'khozkhimiya Association).

In conclusion, I would like to note that the precise observance of the normative documents regulating the hauling of hazardous cargoes constitutes the duty of all enterprises, organizations, and institutions engaged in shipping, hauling, and receiving hazardous cargoes. This is a very serious question and, therefore, in cases of violation of the requirements indicated in the documents, the law has provided for criminal responsibility.

FOOTNOTES

1. AVTOMOBIL'NYY TRANSPORT, 1981, No 6, pp 51-54.

2. The sequential aggregate of code numbers corresponding to the class, subclass, category, and group to which a substance has been relegated, consisting of a four-value number for hazardous cargoes of all classes except for the 1st class.

3. Taking this into account, as well as the numerous letters requesting that documents be sent out to them, our institute put in a request to the USSR Ministry of the Automotive Industry, from whom the answer was received that the ministry had issued a directive (No 6/6--1112, dated 24 December 1982) to the specialized plants engaged in manufacturing tank trucks for hauling petroleum products to send out, at the request of enterprises and organizations under their jurisdiction technical documentation on re-equipping the exhaust system, directing the exhaust gases toward the radiator, as well as on additional protection of the electric drive and the fuel tank.

Among these enterprises are the following: the Odessa Avtoagregat Plant (city of Odessa, Semafornyy per. 4), where the tanks are installed on the chassis of the GAZ-52 trucks; the Smolensk Avtoagregat Plant (214006, city of Smolensk, 6, Starodemidovskaya Street, 26)--on the chassis of the GAZ-66; the Grabovo Specialized Motor-Vehicle Plant (442770, p/o Grabovo, Bessonovskiy Rayon, Penza Oblast)--on the chassis of the GAZ-53A and the ZIL-130; the Posevinskiy Avtozapchast' Plant (633 511 r. p. Posevnaya, Novosibirsk Oblast)--on the chassis of the Ural-375 (put into production beginning in 1983). With regard to other models of motor vehicles requests for consultation should be directed to the plants manufacturing them.



2384
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# CAR BATTERIES CONTINUE TO BE IN SHORT SUPPLY

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 24 Jun 83 p 4

[Article by V. Sidorov in Shevchenko, Mangyshlak Oblast, and A. Valentinov: "Where Can One Purchase a Battery?"]

[Text] /The Deputy Chief of the USSR Ministry of Trade's Main Administration for Cultural, Consumer, Household and Haberdashery Goods Trade P. Kapitonov explained to us through the newspaper the procedure for battery sales. But does Comrade Kapitonov know that it is necessary to register in turn at service stations and wait two to three years? And besides that, in the city of Chirchik of Uzbek SSR one must hand over 20 kilograms of hay. I would like to know why such a situation has occurred, who is concerned in this matter, and what measures will be taken to eliminate the deficiency?/ [in boldface]

"That's impossible!" was the astonished and candid reply of V. Shuklin, deputy chief of "Rosavtotekhobsluzhivaniye" industrial association, when I told him about this and many other letters received at the editorial office following publication of Comrade Kapitonov's explanation. "Everything is in order with batteries. They are for sale at vehicle service stations. It's true that it's only in exchange for old ones."

And chief of the industrial association's supply department Yu. Yekimenkov, who is responsible for providing service stations with spare parts, is convinced also that everything is up-to-date with the batteries. "You'll find them, but not there," he declared authoritatively. "It's necessary to purchase batteries at STOA [vehicle service stations] of the RSFSR Ministry of Vehicle Transportation. Or at the "Soyuzavtotekhobsluzhivaniye" VPO [all-union industrial association] of the Ministry of the Automotive Industry. Or at special centers of the VAZ [Volga Automobile Plant]. You can see how many different subdivisions are concerned about individual vehicle owners, but you say there are no batteries! Indeed the union Gosplan itself is distributing them."

"Apparently, I should have begun with the Gosplan. Following my conversation with the deputy department chief of accounts and plans for equipment distribution, and the subdivision chief N. Zhil'tsov, I was filled with optimism, although Nikolay Aleksandrovich spoke only one sentence:

'We are completely satisfied with orders for batteries. And so far as where these batteries are really disappearing to--you'll have to ask the guilty ones.'"

Does this mean it's the usual supply error? For example, market fund batteries were driven off to such a godforsaken place where they have not yet had time to build roads for vehicles. But one more phone call--to L. Nikolashina, an expert and subordinate of N. Zhil'tsov--completely refuted this assumption.

"The annual requirement of the market fund is 1.2 million batteries," Lyubov' Fedorovna reported. "This year we planned to sell 650,000 units to vehicle owners. We can't sell more than that because the Ministry of the Electrical Equipment Industry is not providing them."

Yu. Frolov, deputy chief of the "Soyuzelektroistochnik" VPO of the Ministry of the Electrical Equipment Industry, provided comprehensive information: "Are the readers writing that as far back as three years ago it was possible to purchase batteries easily? What they write is correct," said Yuriy Vladimirovich. "For three years now we haven't fulfilled the plan for battery output. The reason? There are several of them. Well, let's say, the Kursk battery plant found itself in an emergency condition and had to shut down production there. The Tyumen' battery plant is ruining the plan because of a shortage of monoblock containers through the petrochemical branch. The Leningrad plant stood idle the entire first quarter of last year because of a lack of lead. Do I need to enumerate further?"

"I think that's enough. But what are the prospects for the future?"

"We are trying to correct the situation. Right now we are purchasing highly productive lines abroad for the output of especially high quality batteries. The first of these was started up already at the Podol'sk plant."

/FROM THE EDITORIAL STAFF. Thus, the situation was cleared up in a general way. Only two questions remain to be answered: Who is personally at fault for the battery shortage which was created and how was he punished for this? And when will the shortage be eliminated? We are awaiting an answer from the Ministry of the Electrical Equipment Industry, the Ministry of the Automotive Industry, and other interested organizations./ [in boldface]

9889
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## COMPLAINTS CONTINUE ABOUT KAMAZ VEHICLE SERVICING

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 13 Jul 83 p 2

[Article by an unidentified author of the Department of Industrial Construction, Transportation and Communications of SOTSIALISTICHESKAYA INDUSTRIYA: "A Rating of 'Poor' for Service"]

[Text] In his speech "The Hobbled KAMAZ's" [type of vehicle produced at the Kama automotive plant] in the 25 March 1983 issue of SOTSIALISTICHESKAYA INDUSTRIYA, a driver of the Ivanovo automotive combine A. Odinets raised the extremely important problems of servicing large trucks of the Kama industrial association. In order to maintain the technical readiness of vehicles the industrial association in due course decided to establish a system of servicing by a firm and of which the motor vehicle center became the main link. Its task was enunciated clear enough: to reduce the downtime of vehicles in the process of servicing to a minimum and with a minimum outlay of spare parts.

As far back as 1980 the Ministry of the Automotive Industry committed itself to establishing a constant stock of rotating engines, units, and assemblies at the automotive transportation enterprises (ATP) for this purpose. But it was never established. In order to procure them it was necessary to apply to the motor vehicle center for each assembly and component. Several minutes are required for changing a component, but the vehicle stood idle for days waiting on it.

More than three months have passed since the day the letter was published, but the flow of reader responses has not ceased. Their authors--from ordinary drivers to leaders of automotive organizations--completely support the leading driver's speech. There is a particularly large number of letters from automotive transportation workers in the Ukraine. Their excitement is understandable: they are beginning already to join in the battle for a large grain crop. And civic concern about the future harvest and fulfilling the food program stands out in each one of the letters, which one would think would be devoted to technical questions in particular.

V. Andronov, the chief engineer of Kommunarsk ATP in Voroshilovgrad Oblast writes: "The motor vehicle center allotted us a total of two days per month--the first and third Monday--for procuring spare parts. Now, if a "KAMAZ" went out of operation on Tuesday, it must wait two weeks for 'its day.' Is this normal and especially during the harvesting period?"

But it appears that having to go tens of kilometers for some trifling part is still part of the trouble. The trouble is the thing itself that's needed is sometimes not at the motor vehicle centers. "Often because of a lack of piston rings we have to remove the engine and send it to the plant in Brezhnev, pay 1,390 rubles for major repair plus transportation costs, and wait for 2 to 3 months. If we had these rings, we could change them ourselves in 2 days, and, besides, the work would come out 100 times cheaper. As we see, the scarcity of spare parts is profitable for the manufacturer, but what about the state?" reasonably asks N. Gaydar, chief engineer of the Cherkassy Oblast administration for truck transportation.

L. Bilyk, chief engineer of the L'vov motor column, supplements the picture: "The motor vehicle centers turned into commercial points which require too many certificates and reports, and too much information for that, and they don't render any kind of assistance. And, you know, service by a firm is not so much the sale of spare parts as a diagnosis, assistance in repair and in the training of personnel, prevention, scientific and technical information, the exchange of leading experience, and many other things."

Pretension after pretension. It looks like the automotive workers were just waiting for a chance to tell the "KAMAZ" creators everything that was burning within their heart. V. Saulyak, chief engineer of the Zaporozh'ye Oblast motor vehicle transportation administration, enumerates: "Vehicles are standing idle at all of our ATP because of the lack of one and the same spare parts and complete components, and, precisely, of reducing gears for drive axles, water and oil pumps for engines, injection nozzles, electrical batteries, timing couplings for fuel injection, electrical conductors, carry-on vehicles and trailer bodies, steering wheels, and cabs."

V. Voloshin, chief engineer of Antratsit ATP in Voroshilovgrad Oblast raises this question: "I would like to speak separately about unreliable vehicle tires. The thing is that 260 x 508 size "shoes" do not sustain the actual loads and instead of the prescribed 83,000 kilometers they run half as much. It's high time to install 280 x 508 tires, or others equal to them in reliability, on model 5511 dump trucks."

In almost every letter there are puzzling questions addressed to the State Committee for the Supply of Petroleum Products and to supply and marketing organs which are not providing the automotive business with TSP-15K transmission oil and the low-freezing fluid "Tosol." V. Vil'khovchenko, chief engineer at the Voroshilovgrad ATP; M. Troyanskiy, chief of the Belgorod-Dnestrovsk ATP; and many other workers write that their lack when one has to use substitutes is also one of the reasons for the premature breakdown of vehicles.

Readers are proposing for broadening the repair base that the Ministry of the Automotive Industry develop and establish a full complement of garage equipment, coordinate the performance of repairs on KAMAZ's and units at automotive repair plants of automotive transportation ministries in the union republics, and think over the question of unifying assemblies, units, and

components with "KRAZ" and "MAZ" vehicles [types of vehicles produced at the Kremenchug automotive plant and at the Minsk automotive plant respectively]. These are ideas of A. Chalogo, chief of the "Vinnitsagruzavtotrans" industrial association, and Yu. Lagutin, chief engineer of the Odessa Oblast administration of truck transportation.

Remarks were also expressed in the letters for improving the design of motor vehicles. In particular, it is suggested that the air filter be taken out from under the front axle where it becomes rapidly clogged with road dust.

We'll sum up some of them. Unfortunately, because the organization of servicing was not thought out, the long-awaited, promising, and comfortable "KAMAZ" did not become the prop for automotove organizations in fulfilling national-economic quotas.

The conclusion is that the situation should be changed. In publishing the "Hobbled KAMAZ's" material, the editorial staff had also counted on this. The reaction of the Ministry of the Automotive Industry did not bring itself to wait: a reply signed by V. Faustov, general director of the Kama automotive plant, was delivered to Moscow by airplane. The general director self-critically recognized the speech in the newspaper as correct. The reply was prepared with such operativeness we didn't see practical measures of that kind in it. However, let's read a little of it.

Comrade Faustov writes: "Beginning with the second quarter and in addition to the 1983 plan, it is projected to manufacture and supply through the motor vehicle centers a total of more than 60 million rubles' worth of spare parts for a fixed products list. As regards the establishment of an exchange fund at each automotive transportation enterprise, at the present moment this does not seem possible because of the excessive dispersion of "KAMAZ" vehicles in the national economy.

Furthermore, the volume of centralized repair of engines, units, and assemblies at the Kama industrial association and plants and subcontractors of the Ministry of the Automotive Industry is being increased through a decision of the board."

It speaks further about the fact that the industrial association turned to the USSR Ministry of the Petroleum Refining and Petrochemical Industry with a request to improve the supply of rubber engineering components in spare parts. And the reply concludes with information that in "the city of Brezhnev a plant is being built for manufacturing spare parts and at which major repair of engines and units will also be carried out."

With all its apparent business-like efficiency, it's difficult to qualify the reply from the KAMAZ general director other than the usual reply written for form only. Having concurred in words with the criticism, he actually got away from resolving the main questions. Of course, the drivers will be gratified to find out about the additional output of spare parts, although they understand perfectly well that with the enormous debts of the Ministry of the Automotive Industry this addition will not resolve the problem. They will

welcome also the news about building a plant. Well, what is to be done today with the servicing of large cargo trucks? Will the motor vehicle centers out of the trade organizations be converted into actual centers for technical assistance? Will they begin to bear the responsibility for the downtime of vehicles and for the deadlines and quality of repair? This is what troubles all motor vehicle transportation workers today. But the most burning questions were passed over in silence.

It's as if through this reply the Ministry of the Automotive Industry is renouncing the establishment of a promised, constant stock of rotating engines, units, and assemblies at each ATP. If the Ministry of the Automotive Industry does not see any way out of the situation, then, perhaps, it ought to decline the services, which it itself compromised, of the motor vehicle centers and get on with supplying the motor vehicle organizations with spare parts.

The hard work of harvest time has begun. To no small degree, its success will depend on high quality servicing of all equipment engaged in the harvest. This also includes motor vehicle transportation. It's necessary to immediately improve the situation with servicing "KAMAZ's."

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MARITIME AND RIVER FLEETS

## MINISTRY CONFERENCE REVIEWS METHODS OF IMPROVING RIVER FLEET

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[Article by I. Shchepetov, chief of the Main Administration for Transportation and Operation of the Fleet of the Ministry of the River Fleet [MRF]: "Methods of Improving the Work of the Fleet"]

> [Text] One of the most important problems of the sector--further improvement of river fleet operations on the basis of using modern technical means--was discussed at a republic conference of workers of the Ministry of the River Fleet, which was held on 4-5 April this year in Gorkiy. Present at the conference were operational workers of steamship companies, ports, regional administrations and the central administrative machinery of the Ministry of the River Fleet and representatives of institutes and main river fleet administrations of union republics.
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> Deputy Ministery of the River Fleet N. P. Gor'kov participated in the work of the conference. Conference participants heard thematic and special addresses by supervisors of main administrations and administrations of the Ministry of the River Fleet, chiefs of services, chief dispatchers of steamship companies, scientists of institutes and ship captains. The conference discussed and adopted recommendations aimed at further improvement of river fleet operations in the light of the decisions of the 26th CPSU Congress on greater satisfaction of the national economy's requirements in cargo transportation.
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> We are publishing materials on the basic directions of the conference's work.

During the first 2 years of the 11th Five-Year Plan, rivermen of the Russian Federation have achieved certain successes. The plan for cargo transportation was overfulfilled by 9.4 million t. As envisaged by the plan, transportation by steamship companies in the eastern basins are increasing at a much faster rate. The 1982 navigation season was successfully completed. The plan for cargo transportation was fulfilled by 100.8 percent and for cargo turnover

by 100.2 percent. Tasks with regard to transporting timber in rafts and dry cargo vessels were fulfilled. The planned volumes in transporting cargos of basic range of products were ensured. Al grain cargo and vegetable-melon products presented for transportation was realized. More than 1 million t of grain was transported from maritime ports alone.

All cargo received from the railway was transported to enterprises of the Yakutsk ASSR and northern rayons of Irkutsk Oblast from Osetrovo port. Tasks for transporting cargos to oil workers of Sakhalin and to Dudinka for the Noril'skiy Mining and Metallurgical Combine were fulfilled. Collectives of 13 steamship companies successfully coped with fulfillment of their annual cargo transportation plan in both indexes.

Persistent labor and goal-oriented work aimed at improving the forms and methods of operational work helped in achieving the aforementioned results. Good indicators were achieved by collectives of steamship companies such as the Volgotanker, Belomorsko-Onezhskoye, Moscow, Volgo-Donskoye, Volzhskoye Unified, Northeastern, Amurskoye and Western. At the same time, owing to unsatisfactory work in 1981, a lag was permitted in fulfillment of cargo turnover by 4.4 billion ton-kilometers during the 2 years of the five-year plan.

During the 1982 navigation season, transportation of cargos in some basins was held back owing to unfavorable hydrometeorological condtions (shallow water) as well as failure to present some planned cargos. Thus, for the second year in succession extreme shallow water in the Ob-Irtysh basin has made the work of steamship companies very difficult. Insufficient depth was also on the Kama, Belaya and Vyatka Rivers during the second half of the navigation season. It is necessary to provide reserve alternatives for using the fleet in consideration of unfavorable hydrometeorological conditions and to adopt such measures which would compensate to the maximum the losses due the whims of weather. This task must become a concrete action program of all operational workers in their practical work.

The failure to present planned cargo for transportation (a considerable quantity of grain, timber and chemical cargos, granulated slag, ore and metal) had a negative influence on the fleet's gross productivity.

Steamship companies avoid self-critical appraisal of quality of the developed plans and poorly work on their realization and as a result the discrepancy of cargo flows in annual and operational plans is eliminated only by constantly increasing short-distance shipments of construction cargos with corresponding deterioration of fleet utilization indicators. Supervisors of steamship companies and operational personnel must devote more attention to the quality of planning and unremittingly control on a daily basis the progress in implementing the planned cargo flows.

During the current five-year plan, the cargo fleet's gross productivity must increase by 6 percent and by 2.4 percent during the 2-year period. In the Volgotanker, Volzhskoye Unified, Volgo-Donskoye, Kubanskoye, Northwestern, Belomorsko-Onezhskoye, Pechorskoye, East Siberian and Amurskoye Steamship Companies the level of gross productivity of cargo ships during the first 2

years corresponds to the tasks of the five-year plan. At the same time, in the Ministry of the River Fleet as a whole in 1982 it was lower than in 1980. The Kamchatskoye, Vyatskoye, Bel'skoye, Sukhonskoye, Ob-Irtyshskoye Unified, West Siberian, Yeniseyskoye, Lenskoye Unified and Northern Steamship Companies are lagging considerably behind the five-year plan tasks for fleet utilization.

The main causes of unsatisfactory fulfillment of tasks for increasing gross productivity of cargo ships in 1982--lowering the load for the run, reducing route movement speed of ships, increasing empty runs and slow rate in reducing tonnage layover. It should be noted that while previously the reduction of average distance in cargo transportation was the basic factor that had a bad effect on the gross productivity of dry cargo vessels, then in 1982 this indicator for dispatching dry cargo in ships remained at the 1980 level but for fleet utilization it was reduced by 3.7 percent. This testifies to an increased transshipment of cargo en route. Every transshipment of this type has a bad effect on fleet utilization indicators and, therefore, any decision on transshipment en route must be substantiated.

During the 1983 navigation season it is necessary to raise gross productivity of cargo ships by 4.3 percent against the 1982 level. In this connection every steamship company was assigned intensive tasks for increasing it, which require realization of all available reserves at every sector of work.

One of the main directions in raising gross productivity is reduction of all kinds of layovers of cargo ships. A considerable share of them has to do with layovers under processing in ports and at the docks of clients. This is an appreciable reserve, which must be used to the maximum. In 1982, the above-plan gross idling of the transit dry cargo fleet under processing amounted to 30.9 million tonnage-days, including 17.6 million tonnage-days in eastern steamship companies. The situation is especially bad in the Ob-Irtyshskoye Unified Steamship Company--5.7 million; the Yeniseyskoye--5.7 million; the Kamskoye--4.2 million; the Amurskoye--3.5 million; the Volzhskoye Unified--3.5 million; and the Moscow--2.6 million tonnage-days.

Some steamship companies have not been fulfilling the established vessel-hourly norms for processing the transit fleet and as a result the excess idling under cargo handling operations amounted to 15.2 million tonnage-days, including in the steamship companies as follows: in the Ob-Irtyshskoye Unified--7.8 million; the West Siberian--3.8 million; the Yeniseyskoye--3.3 million; and the Lenskoye Unified--1.1 million tonnage-days.

Owing to the failure in fulfilling the indicator for intensiveness of cargo handling work (88 percent of the plan) in 1982 compared with 1980, the fleet's expenditures under cargo handling operations per 1 t of processed cargo increased by 2.6 percent for the transit fleet as a whole.

The fleet's losses are especially great at docks of clients, where the intensiveness in processing transit cargo ships is 1.8-fold lower than at docks in ports. Here 33 percent of all cargo is processed, and the fleet's expenditures amount to 47 percent. During the 2 years of the five-year plan, the volume of processed cargo at these docks has increased by 2.2 percent, and in the steamship companies in the eastern basins by 19.3 percent. At the same time, the

intensiveness in fleet processing at the docks of clients in these basins is 17.5 percent lower than on the average for all clients. The trend of growth in the volume of processing in these basins will be maintained in the future, therefore it is necessary to improve the organization of cargo operations and raise the machine-dock ratio as well as construct new ones in accordance with government resolutions.

The steamship companies in the European part of the RSFSR have reduced the intensiveness in processing transit fleet at docks of clients by 9.5 percent in 2 years. Basically this is connected with the growth of shipments of grain cargos and fertilizers, since the machine-elevator-dock ratio practically has not been growing. By 1985, the volume of grain shipments should increase to 7 million t and of potassium fertilizer and industrial salt from the Uralkaliy Association to 1.3 million t. In this connection it is necessary to considerably increase the handling capacity of elevators as regards receiving and loading grain as well as of docks in loading and unloading mineral fertilizers. However, the decisions adopted on developing and constructing docks of the RSFSR Ministry of Procurement [Minzag] and the USSR Ministry of Mineral Fertilizer Production [Minudobreniy] are being fulfilled insatisfactorily and therefore corresponding steamship companies must considerably step up their work with these ministries in implementing the outlined measures.

Compared with 1980 results, processing of the transit fleet has also deteriorated in ports of the Ministry of the River Fleet in 1982. Processing intensiveness has dropped by 2.4 percent, including in the Ob-Irtyshskoye Unified Steamship Company by 13 percent, in the Bel'skoye by 17.5 percent and in the Kamchatskoye by 14.8 percent. While 11.9 million tonnage-days were overexpended in processing transit ships, 18.3 million tonnage-days were saved in processing the local fleet. Two circumstances are cause for alarm: the switching over of most productive transshipping equipment from processing the transit fleet to local fleet and lack of control on the part of steamship companies over norm setting in ship processing. This has led to the fact that unjustifiably advantageous conditions have been created for the local fleet, while processing of the transit ships, which are more productive and expensive, has been getting worse every year.

Supervisors of steamship companies and ports and all operational workers must radically change their attitude toward the transit fleet. The basic part of material and manpower resources must be directed toward implementing measures aimed at improving processing and servicing of the transit fleet. Currently, nearly 400 floating cranes, including 100 units of 15-16 t hoisting capacity, are engaged in own excavation and offloading of mineral construction materials at the ministry's ports. The relative share of hydraulic mining work in excavation of construction materials amounts to 62.5 percent and in offloading to 35.9 percent. The task is in gradually releasing the cranes from processing local sand and switching them over to processing transit ships by improving the use of means of hydraulicking and accelerating the delivery to ports of suction dredges and hydraulic transloaders.

At the same time, the material incentive of ports in processing the transit tonnage should be raised. At present, the share of income obtained by ports for this work is insignificant in the overall sum and does not promote accel-

ration of ship processing. In the Leningrad port it amounts to 23.9 percent, in the Perm port to 21.8 percent and even less in the Gorkiy and Rostov ports. This obvious contradiction can be eliminated by reexamining the rates for servicing the transit cargo turnover: sharply increasing them so that ports would receive at least 50 percent of all income for processing transit ships and servicing them. In this case it is important that above-plan income (some share) would remain in ports and be used for developing their handling capacity. It is necessary to assign the Central Scientific Research Institute of Economics and Operation of Water Transportation [TsNIIEVT] to fulfill corresponding studies in this direction.

Setting of norms in transportation operations is of important significance for improving operations of the transportation fleet. Much has been done here, but that which has already been achieved is no longer satisfactory and besides there are still many shortcomings in this.

Individual steamship companies are not reviewing the norms of ship servicing in ports in a sufficienty critical manner. Thus, the Volgo-Donskoye Steamship Company submitted to the Ministry of the River Fleet a draft of processing norms for 1983, control analysis of which has indicated that additional expenditures for cargo motorships alone of 2 million tonnage-days compared with the 1982 norms. The Moscow Steamship Company saved more than 4.5 million tonnage-days against the norms in processing the local fleet in 1982. However, operational workers of steamship companies agree very reluctantly to reducing processing norms for 1983, although economizing alone in the local fleet was enough for ensuring fulfillment of the established task.

Questions of norm setting in processing of the fleet worry many rivermen. The journal discusses an article by A. Filimonov on planning the average processing norm. Although many participants in the discussion regard the advanced proposal negatively, the existing norm setting system requires improvement, many wishes are expressed about developing norms for the five-year plan. One of the versions for solving this question is planning the fleet's expenditures in tonnage-days in processing established volumes for types of cargo, on the basis of which the steamship companies could confirm specific norms for ports. In this case there appears a possibility of confirming the fleet's relative expenditures and the processing norms are differentiated by years for the five-year plan at once.

Implementation of this proposal will require certain analytical work. Organization of a specialzed department of the Central Planning and Design Bureau [TsPKB] will make it possible to centralize all work in analyzing and norm setting of fleet processing for neighboring steamship companies. It is necessary that ports submit monthly to the department information on ships that completed processing. Obviously, further studies by scientists and concrete proposals by practical workers will make it possible to find more improved methods for norm setting in fleet processing.

The most important direction in reducing layovers is improvement of comprehensive coastal servicing of the fleet (KOF). The steamship companies are conducting centrain measures, but there is still no practical effect from them so far.

The experience of the Northwestern Steamship Company, where comprehensive servicing of the fleet is functioning on internal cost accounting, merits attention. During the 2 years of the five-year plan, layovers were reduced here by 2.1 percent, 2.2 million tonnage-days were saved and the amount of services rendered to ship crews was increased nearly twofold. It is necessary to generalize the existing positive experience in steamship companies and on its basis to develop measures for fundamental improvement of this most important direction of operational activity. In this case it is necessary to study the experience of related modes of transportation, first of all in ports of the Ministry of the Maritime Fleet [Minmorflot], and to adopt everything that is positive.

At present, when steamship companies have modern cargo ships, large cargo capacity trains and highly mechanized ports and when the skill of the dispatcher staff has risen and electronic computing technology is being used on a increasingly broader scale, the increase of quantitative and improvement of quality indicators of work must be ensured, first of all, through efficient use of the fleet and improved forms of management. Therefore, at the present stage new demands are made of the fleet traffic schedule, as a basic organizing document in the transportation process.

Two years have passed since the new traffic schedule regulations were put into force, and the first results can be summed up. Control over the fleet's traffic and processing has been strengthened, information on the arrival time of ships has improved and the regularity of their arrival in ports has been raised somewhat.

In 1982, the ministry as a whole fulfilled the schedule by 75.4 percent against 71.9 percent in 1981. However, in some steamship companies it has not become the basic document in organizing coordinated work of the fleet and other subdivisions. The schedule fulfillment percentage is low in the Belomorsko-Onezhskoye Steamship Company (54.9 percent), the West Siberian (62.1 percent) and the Yeniseyskoye (69.8 percent) and it has declined against 1981 in the Vyatskoye, Volgo-Donskoye, Northern and East Siberian Steamship Companies. The basic reasons for violating the schedule include failure to bring ships for loading on time, exceeding the gross processing norms and absence of cargo planned for shipment. The relative share of shipments, made according to the line form of the schedule, has declined in the Volgotanker, Volzhskoye Unified and the West Siberian Steamship Companies. Moreover, these steamship companies have failed to provide for raising it in plans for 1983. Reduction of line shipments was planned by the Volgo-Donskoye, Sukhonskoye, Yeniseyskoye and Lenskoye Unified Steamship Companies. The Ministry has corrected these steamship companies and established specific tasks aimed at raising the relative share of the line form in organizing shipments.

Precise organization of the fleet's work according to schedule is a reliable means for regular movement of ships and reduction of process layovers on this basis. In 1982, the relative expenditures on waiting for cargo operations in recalculation per 1 t of processed cargo were reduced by 1.2 percent compared with 1981. However, absolute layovers are still extensive and amount to 17.6 million tonnage-days above the established norms. These layovers have not been

reduced in the Volgo-Donskoye, Kamskoye, Moscow and West Siberian Steamship Companies. One of the reasons is violation of regularity in dispatching ships. The Volgo-Donskoye Steamship Company shipped blast furnace ore irregularly to Cherpovets in May and June, the Kamskoye Steamship Company did likewise with gas coal to Leningrad and so did the Volzhskoye Unified Steamship Company in shipping coal to Ust-Donetsk toward the end of the navigation season. Irregularity of shipments has been noted in most steamship companies. During the third decade of September, the Ministry of the River Fleet fulfilled 44 percent of the monthly dry cargo turnover, including by the Volzhskoye Unified Steamship Company 45 percent, the Volgo-Donskoye 47 percent, the Northwestern 48 percent and the Yeniseyskoye 53 percent.

In order to improve utilization of the fleet and to organize its work more precisely according to the schedule, material incentives, which were permitted and recommended by the ministry, should be used more actively for rewarding the dispatcher personnel.

Some shortcomings in the schedule regulations now in force have been brought to light in course of work, proposals and comments have appeared on making them more precise but many of them require additional checking. Based on 1983 results it is advisable to work on these regulations.

Definite reserves for improving utilization of the fleet are in reducing idling for technical reasons. During the peak of the navigation season, a considerable number of ships are under repairs and do not participate in transportation. During the third quarter of 1982 alone, 49,000 t of selfpropelled and 148,000 t of nonselfpropelled dry cargo tonnage did not work with a loss of carrying capacity of more than 1 billion ton-kilometers. The situation is especially bad in the Volgo-Donskoye and Northwestern Steamship Companies.

Interbasin shipments in associated steamship companies of central and northwestern basins amount to 38 percent of the ministry's overall dry cargo turnover and exert great influence on fleet utilization indicators. During 2 years of the five-year plan, these shipments increased in cargo turnover by 10.1 percent, but planned tasks are not being fulfilled annually. In 1982, they were not fulfilled by the Volzhskoye Unified, Kamskoye, Vyatskoye and Volgo-Donskoye Steamship Companies. There are serious shortcomings in the planning of cargo traffic and in the organization of these shipments. Planned cargos are not presented for shipment completely, relationship of direct and return cargo traffic quite often leads to an increase of empty runs of the fleet, the planned scheme for mastering cargo traffic is not always worked out well in technical plans and maximally intensive norms for loading ships are not adopted for all directions which results in excessive tasks for receiving and transferring of the fleet.

The operational discipline in fulfilling regulated assignments is still low. A negative influence on the interchange of the fleet is exerted by above norm delays of cargo ships in turnover within the boundaries of steamship companies. They are especially considerable in the Volgo-Donskoye, Northwestern, Kamskoye and Moscow Steamship Companies. Operational discipline has been relaxed: captains of some ships from the Don and Kama Rivers have failed to fulfill dispatcher instructions in some cases while within the boundaries of other steamship companies.

To further develop interbasin shipments it is necessary to eliminate existing shortcomings more energetically, raise the quality of planning and severely curb any attempts by individual operational workers to manifest localistic tendencies.

Raising of efficiency in fleet utilization is inseparably linked to introduction of new technological processes and leading work methods. The basic tasks of the new equipment plan were fulfilled in 1982. However, individual steamship companies are not devoting proper attention to broad dissemination of progressive methods. The Vyatskoye and East Siberian Steamship Companies have failed to fulfill their tasks for introducing group work method of ship crews.

The operational staff in the West Siberian Steamship Company has failed to provide the crew of the motorship OT-2032--the initiator of conducting large cargo capacity trains--with the necessary number of barges and as a result it was forced to work with four instead of six barges and fulfilled its pledges by only 79.4 percent. Supervisors of the operational staff on the Irtysh and Yenisey Rivers have failed to conduct necessary work in disseminating the initiative among all crews of this group of ships and as a result the pledges for average daily output were not fulfilled, just like in the West Siberian Steamship Company.

Transportation of cargo in large cargo capacity pusher trains is being developed on an increasingly greater scale. During 2 years of the five-year plan, cargo turnover fulfilled by these trains has increased by 10.6 percent, including with pushers of the OT-2000 type by 13.5 percent. To raise their utilization efficiency, layovers at cargo processing points should be reduced. There are great reserves here. In 1982, for example, the Volzhskoye Unified Steamship Company was simultaneously processing 40 percent of four-sectional trains in the ports of Kazan and Saratov, but only 20 percent in the ports of Yaroslavl, Kuybyshev and Astrakhan. In this case, based on the steamship company's data, 1.6 million tonnage-days were economized in processing these trains, which indicates planning of consistent processing of ships and insufficient striving for seeking possibilities of their simultaneous processing.

Practical measures for increasing the number of ships being processed simultaneously should be implemented in every steamship company. It is necessary to achieve that all sections of large cargo capacity trains and motorships with attachments are processed simultaneously.

Workers of operational services must actively support the appeal of leading collectives of ships for 1983 on increasing the output of transportation production per one pusher a day by 5 percent and render them real assistance in fulfilling the pledge.

Fleet operations during an extended period of the navigation season has been gaining greater significance. During the spring and autumn of 1982 alone, 18.6 million t were shipped with a cargo turnover of 6.3 billion ton-kilometers. At present, the steamship companies have large, transit and port icebreakers and ice-clearing attachments. The eastern steamship companies are being supplied with high-powered shallow-draft icebreakers and the transportation fleet is

being replenished with ships that can sail in crushed ice. Designing and construction of the "Lyed" class ships of the RSFSR River Registry is underway. A sectorial comprehensive program for extending the navigation season is being developed.

However, there are still many problems connected with preventing congelation of cargo, ensuring navigational protection, winter operation of reservoirs and violation of ice crossings. But despite this, the steamship companies, which have ice breaking means and corresponding transportation ships, already begin shipping 10-15 days earlier and end it 10-15 later than usual and ensure guaranteed return of the fleet to its places of registry.

The fleet's work productivity under ice conditions is 5-6 fold lower than the average navigational productivity and this results in the lowering of the final indicators of fleet utilization. The calculations made by the Central Scientific Research Institute of Economics and Operation of Water Transportation indicate that work of cargo motorships during the 1980-81 period resulted in the lowering of their gross productivity for a year by 3 percent. A similar situation was noted during the fleet's operation in winter.

There is a certain contradiction: the requirement on the one hand is for a more complete satisfaction of national economic needs and increased shipments, including by extending the navigational period and on the other hand this increase in shipments substantially lowers gross productivity indicators, which formally characterizes the work of the fleet.

Proposals have been repeatedly made to solve this contradiction by introducing separate planning for winter and extended navigation periods. There is also another alternative for solving this question. A proposal was made to review the order of computation of gross productivity, that is instead of tonnage-days for ships that are in operation to calculate tonnage-days for the entire working core of the fleet for all 365 days in the year. In this case any increase in cargo turnover regardless of the period and with other conditions being equal will result in an increase of gross productivity, and this means it will stimulate the growth in the volume of shipments during the extended period of the navigation season. Both proposals merit close examination.

At the present stage transportation links are becoming more and more complicated, the number of fleets increase, the speeds grow and the interrelation of associated steamship companies become closer. All of this requires new management forms and improvement of the entire operational work. The role of science is growing in solving these questions.

Institutes of the ministry are conducting certain work in researching some operational problems. The Gorkiy Institute of Water Transport Engineers [GIIVT] has worked out in detail the directions of raising efficiency of large cargo capacity trains. Certain successes were achieved by the Novosibirsk Institute of Water Transport Engineers [NIIVT] in developing questions of operation on small rivers. The work of the Main Computer Center [GVTs], the Central Scientific Research Institute of Economics and Operation of Water Transportation

and the Central Planning and Design Bureau in improving and operating the "regulation" subsystem for the level of main administration for shipments and fleet operations deserves good appraisal. A "Dispatcher" automated control system [ASU] is being established on the base of the Moscow Steamship Company. The Gorkiy Institute of Water Transport Engineers is designing a system known as "automation of navigational planning of fleet operations of associated steamship companies."

At the same time, the demands for developments of our scientists are currently considerably higher than their successes. Until now, navigational planning of fleet operations, development of technical plans for work of steamship companies and daily and decade planning was performed by the "manual" method. Scientifically based methods of computing norms for operations of the transportation process have not been developed. The formulas proposed by scientists are extraordinary cumbersome and require an enormous quantity of initial data, which is practically impossible to get. Therefore, the method of computing norms "according to base" has firmly taken root.

The existing system of indicators of transportation fleet utilization is troubled by many shortcomings. It is now impossible to appraise the contribution made by every river transportation service to fulfillment of gross productivity.

Scientific research work [NIR] plans lack subjects on improving dispatcher control over fleet operations and development of methodical recommendations for a dispatcher on his actions in a specific situation. No scientific research is conducted on creating an integrated theory on regulating tonnage in associated steamship companies and its methodical bases and principles of practical application. As a result, regulation is implemented according to experience and intuition. Scientists are not manifesting interest in such an important document as the Regulations on Schedule, although there are still many questions here that require theoretical development and substantiations. The study and generalization of leading experience has been reduced to publication of articles on long known methods of 5 and 10 years' standing.

It is necessary to stir up scientific work in the field of operational activity. Subjects of scientific research must be brought closer to practical requirements with work done in anticipation of the future. New methods for managing the transportation process on the base of electronic computer utilization should be developed and introduced at a much rapid rate. The task of scientists is in more thorough study of problems of practical activity, purposeful conduct of scientific research, reducing its periods and raising its quality and manifesting greater persistence, initiative and scientific originality.

Increasing efficiency in transportation fleet utilization is a complex task, which requires extensive work by all subdivisions of river transportation. Methods of solving this task have been defined. It is now necessary to develop in every subdivision of river transportation a concerete practical activity aimed at implementing the adopted decisions.



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MARITIME AND RIVER FLEETS

## RIVER FLEET DEPUTY MINISTER ON MINISTRY'S ROLE IN CONSUMER GOODS SUPPLY

Moscow VODNYY TRANSPORT in Russian 30 Jun 83 p 1

[Article: "Made By Skillfull Hands" based on interview with Vitaliy Vasil'yevich Trofimov, deputy minister of the RSFSR Ministry of the River Fleet under the heading: "Goods to the People".]

> [Text] Recently the board of ministers of the RSFSR Ministry of the River Fleet convened to consider the question: "About measures for increasing the production of consumer goods at the enterprises of the sector." At the session there was a businesslike discussion about how the plants and the maintenance and operating bases of the fleet are carrying out the important tasks of increasing the output of these goods, and the reasons for the slow assimilation of new articles and the insufficient volume of the manufacture of them were opened up. Our correspondent asked the deputy minister, V. Trofimov, to tell us what the rivermen's shore-side enterprises are producing.

[Question] Vitaliy Vasil'yevich, how is the main task of the ship repair enterprises--the preparation of the fleet to transport freight and passengers--combined with the production of consumer goods?

[Answer] The most important task of our enterprises is the maintenance of the fleet in proper technical condition by carrying out repairs and also the timely preparation of passenger and cargo ships for transport operations. At the same time the state plan specifies that all enterprises of our ministry master and produce a substantial number of consumer goods.

It must be noted that over the past 2 years the output of cultural and domestic and useful household goods increased by 15 percent. In so doing, the plan for the year was fulfilled by 109 percent. The assignment for the first of the steamship companies and enterprises, steady singleminded work is being done on raising the quality and increasing the production of goods. Annually, enterprises of Glavursa [Main Administration for Operating Supplies], and others fulfill the established assignments.

[Question] We would like to know what our plants and REBs [Maintenance and Operating Bases] produce and whether their goods are in popular demand?

[Answer] Our enterprises manufacture much furniture from sawmill and woodworking scraps. The assortment is extremely varied, beginning with little stools and ending with cabinets. Facing-board for the outer sheathing of houses is being produce or realized through local bases of "Roskhoztorg" [Republic Office for Wholesale Trade of Household Goods] and also picket board and its parts, baseboards, frames, window sills, door- and window-frame units, battens and many other things.

Prefabricated garden sheds are in the list of goods produced by the Medvezhegorskaya REB, the Sokol'skaya shipyard, and the Belogorodskiy and Cherepovetskiy SSRZ [Shipbuilding and Repair Plants]. It is true and must be recognized that the production of them in quantitative respects is still insufficient and the demand is great. This is true also for the output of smoothing boards by the Svobodenskaya REB, stools by the Krasnoyarskiy plant, and furniture for the halls of clubs and houses of culture by the Pamyati Dzerzhinskiy plant of the Kamskoye Steamship Company.

[Question] Well, besides wooden articles, does the sector put anything else up for sale from the enterprises?

[Answer] Of course. As I already have said, much of what we make is from scrap. Thus, at the same Medvenzhegorskaya REB they wisely use up residues of metal for a pretty well established output of furnace castings. These are plates, burner rings, and structural fastenings. The REB Krasnyy Flot is producing ployethylene pails, wallets for keys, and jackets for traveller's checks. The Kuybyshevskaya REB is making polyethelene lids, and the Nevskiy SSRZ is making gratings for baths, household carriers on rollers, and metal covers for jars.

[Question] By the way, in stores these covers cannot always be found, and if they are available, there is a long queue for them. Hence it follows that they are used in great numbers especially by housewives but also by gourmets in general for canning berries and fruits. Juding by the schedule of orders in our sector, in the current year only the Nevskiy SSRZ has planned to make 500,000 such covers. Could they not increase the output?

[Answer] Unquestionably. The plant collective already this year should make not less than 100,000 covers in addition to the assignment. However, not all leaders of steamship companies and enterprises are seriously and attentively concerned with the production of consumer goods. They consider that it can be recourse, leaders of those enterprises where there is a shortage of materials.

Despite the instructions of our ministry, the production of cultural, domestic and useful household goods has not been organized by the Lenskoye association, nor by the Belskoye, Sukhonskoye, and Vostochno-Sibirskoye Steamship Companies, nor at the plant Pamyati Kirova, the Volgodskiy plant, the Ufimskaya REB, the plant Stepana Khalterina, the Irkutskiy and Usol'skiy plants, nor at the Kachugskaya and Osetrovskaya shipyards.

The Volzhskoye association, the Severo-Zapadnoye, the Ob'-Irtyshkoye, and the Yeniseyskoye Steamship Companies and the "Teplokhod" plant, meanwhile, are still weakly engaged in expanding and renewing the production list for articles and in more fully utilizing scrap and production resources, but they are not carrying out the operations necessary to assure fulfillment of the established plans or increasing the production of goods. Because of a low level of organization and production technology, the enterprises of these steamship companies are allowing the production of low quality articles, and their cost is above current list prices.

We are constantly reminding and instructing the leaders of the steamship companies to utilize scrap more fully. One can take any enterprise and there are tons of sawdust, panels, metal and other materials which are vanishing for nothing. Up to now the Volzhskoye association, the Severo-Zapadnoye, the Volgo-Donskoye, the Yeniseyskoye, the Zapadno-Sibirskoye, the Ob'-Irtyshkoye and the Moskovskoye Steamship Companies have made extremely little use of wood scraps for producing goods.

[Question] And a final question Vitaliy Vasil'yevich. What measures has the collegium mapped out for the timely production of the indicated goods?

[Answer] First of all, supplementary assignments have been established for their manufacture and for an overfulfillment of the plan for the current year by not less than 10 percent. It has been planned to expand, over and above the assignments, the volume of such articles as garden sheds, household carriers on rollers, paper containers, semisoft chairs, and many others.

To the chiefs of the steamship companies and of the basin administrations for waterways and operating supplies, and the leaders of industrial enterprises an instruction has been given to review each month the progress in fulfilling the plan for production of consumer goods and to develop and approve for each enterprise measure for substantially increasing their output in the years 1983-1985.

And finally, it has been recommended that our enterprises and the TsPKB [Central Planning and Design Bureau] strengthen work on the study of popular demand and work out proposals for increasing the output of consumer goods at the enterprises of the RSFSR Ministry of the River Fleet in the following years.

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MARITIME AND RIVER FLEETS

## SHIP REPAIR PLANTS CONTRIBUTING TO CONSUMER GOODS SECTOR

Moscow VODNYY TRANSPORT in Russian 28 Jun 83 p 1

[Article: "With Regard for the Demands of the People" based on an interview with Viktor Nikolayevich Shtond, deputy chairman for industry of the All-Union Association "Mortekhsudremprom" [Maritime Technical Ship Repair Industry] under the heading: "Goods to the People".]

[Text] Frequently in conversations about the things of a comfortable mode of life, about an elegantly made table or arm-chair, the question: where is it obtained? can be heard. Unfortunately, we just have to "obtain" many consumer goods. Although the country has much excellent raw material, source material for producing these wares, the quality and quantity of them leaves much to be desired. This was discussed at the June 1983 Plenum of the CPSU Central Committee.

The CPSU Central Committee and the USSR Council of Ministers adopted a decree: "About supplementary measures for improvement in providing people with consumer goods in the years 1983-1985". In it, it is noted that despite an increase in the output of consumer goods, the demand for many of them is not being fully satisfied. For the quickest satiation of the market, every industrial sector for material production and every enterprise regardless of specialization, must make its own contribution to reinforce the supply of goods.

In the Ministry of the Maritime Fleet of the USSR there are scores of ship repair plants. In addition to their principal work, they also produce consumer goods. With a request to tell us how the enterprises of this industrial sector are getting on in this plan, our correspondent turned to the deputy chairman for industry of the All-Union Association "Mortekhsudremprom" [Maritime Technical Ship Repair Industry], Viktor Nikolayevich Shtond.

Many plants of the Ministry of the Maritime Fleet, in accordance with orders from local trade organizations, produce goods for cultural and domestic purposes or household use which are in popular demand from production scrap or saved materials. Annually they produce them in an amount of about 1 million rubles.

However, the demands for some of the consumers goods produced by the sector's plants are not being satisfied completely, and there are under utilized production capacities for increasing the output of them. Some leaders of steamship companies and plants do not take proper steps to seek out additional resources for increasing the amounts and broadening the kinds of consumer goods. They are an extremely small proportion of the total production of the plants of the Soviet Danube, Estonian, Novorossiysk, and a number of other steamship companies, and, at the plants of the Central Asiatic Steamship Company, up to now, the production of consumer goods has not been organized.

These problems were considered recently at a meeting of the collegium of the ministry. For a most rapid solution of them, an order was published: "About the production of consumer goods at the plants of the Ministry of the Maritime Fleet". It provides for an increase in the output of consumer goods in the years 1983-1985. The total volume of their production by 1985 will have increased by a factor of more than 2.

For this a whole series of specific measures has been worked out for increasing the output of consumer goods. Now they will be included in the list of the most important products and the supervisory workers, of the administrative apparatus responsible for the basic results of economic activities of the associations and enterprises, will not be awarded bonuses in the event that the plan for consumer goods is not fulfilled. The central planning and design bureaus of the sector will be drawn into the creation of consumer goods. At the industrial enterprises, special workers will be designated in the design and production services to be responsible for organizing production, improving technology, and increasing the quality of consumer goods.

Viktor Nikolayevich, all of these, if it can be so expressed, are the cardinal tasks of the sector, its principal orders in the plan for increasing the output of consumer goods. But, for a specific enterprise, what is to be said about the goods it produces as its estabished business?

Look, for example, at this little sailboat. It was stamped out at the Sovetskaya Gavan' ship repair plant. But they enjoy great popularity among city dwellers, not as souvenirs, but as furniture manufactured by this plant. Before starting production of a new table or a little bench for a kitchen, two or three samples are made at the plant. They are put into a store and, depending on the demand and appraisal by buyers, the product is either put on the production line or taken out of production.

Much attention is given at the plant to a study of the demands of the people. Thus, recently, for residents of the Khabarovsk area the creation of suburban cottage cooperatives became popular. And the ship repairers of Sovetskaya Gavan' organized the production of stoves for the cottages.

The chief engineer of the plant monitors the production of consumer goods. Twice a month controllers conferences are devoted to the questions connected with the manufacture of these products.

Many examples of good organization of the business in this plan can be cited but, nevertheless, there still are unresolved problems in the production of consumer goods. Today, the ministry is giving them great attention. So that is the assurance that they will be resolved in the near future. This is the requirement today.

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## MAGADAN PORT PURSUES CENTRALIZED CONTROL OF SHIP-TRUCK TRANSSHIPMENT

Moscow AVTOMOBIL'NYY TRANSPORT in Russian No 6, Jun 83 pp 10-12

[Article by Yu. Kuz'min and S. Semenov, Magadan freight terminal: "Closer Cooperation in Port Operations (the experience of centralized transshipment operations at the port of Magadan)"]

[Text] Motor transport workers initiated cargo transport and forwarding services for customers in and out of the port of Magadan five years ago now. During 1978 280,000 tons of freight were shipped through the port (containerized cargo for the most part), more than 1 million tons in 1979.

The same year saw the formation of a transport and forwarding enterprise (TFE) to deliver freight to (and receive freight from) customers from the port of Magadan, while two motor freight transport enterprises supplied transport equipment to the new operation. Magadan GATP-3 [motor freight transport enterprise] was formed at the end of 1979 especially to serve the maritime port here at Magadan.

Organizational measures were designed and implemented together with the port administration to reduce the time required for freight-handling operations. To cut down the time required to dispatch 20-foot containers, for example, steps were taken to find a more efficient way to organize them at the terminal.

One result of all these measures has been a continuous increase in the volumes of cargo moved through the facility here. Volume was 1.3 million tons in 1980, 1.7 million tons in 1981. Last year saw the beginning of fully centralized freight operations at the port of Magadan. This year we are planning to handle 2.1-2.2 million tons of cargo, 10 per cent of which will be delivered to rayons within the oblast using transport bypassing city terminals.

In 1982 GATP-3 and the transport and forwarding enterprise formed a motor transport association. It now has more than 200 MAZ-504B's, ZIL-133's, KamAZ's and KrAZ's. It also employs 72 detachable semitrailers with an average carrying capacity of 17.5 tons and five 40-ton trailers.

Because of the operation's growing number of customers, the average distance a cargo is being shipped is continually decreasing—17 km in 1980, 16 km in 1981, 13.7 km in 1982. Freight has been shipped a maximum of 105 km.

Primary supply points, and there are roughly 400 of them, are all located within the city limits. We conclude annual contracts with 50 major consignees and serve other customers, those who receive shipments only irregularly and in small volumes, on the basis of individual requests.

By and large, all organizational, commercial and financial questions arising between the port and the consignees are resolved through the agency of the transport and forwarding enterprise.

In 1978 we began to pattern our operation after the method employed by the Leningrad freight terminal. We set up a coordinating council for the Magadan freight terminal. Council members included the port administration, representatives of the transport administrations and senior personnel of the major consignee enterprises.

The decision was made in 1980 to reduce the size of the council and replace representatives of the individual enterprises with officials of administrations to which they are subordinate. Taking this step enhanced its capacity to act as a coordinating body: instead of having to search for the causes of failures to implement decisions it now became possible to exercise a direct influence on the behavior of the major consignees and render them practical assistance in solving problems involved in improving their freight receiving and warehousing operations, their commercial operations and much else.

A joint directive issued by port and TFE authorities set up combined dispatching shifts and integrated daily shift planning. Representatives of the consignees were made full members of the planning committee [planerka], which meets every day at 10:00 a.m.

The port provides the TFE with the monthly ship arrival schedule indicating the dates of arrivals and the categories and volumes of freight involved. The coordinating council is kept continually informed at least a week ahead of time of the latest ship arrival times. A group of workers at the terminal maintains continuous line charts scheduling ship unloading operations (by dock).

This system of planning and information distribution allows the motor transport workers to prepare their equipment, special-purpose equipment or equipment with special devices, ahead of time, while consignees have time to prepare to receive their shipments.

Last year saw the port accomplish a great deal to improve its freight-handling operations. We set up three consolidated transshipment facilities manned by a single brigade of dock machine operators (rather than several small brigades). Each of the three brigades works a single job taking account of the work participation coefficient for the members of the brigade.

The TFE has also organized three divisions to correspond to each of the facilities at the port and assigned driver brigades to each one of them. It formed 16 driver brigades altogether, each specializing in handling different kinds of freight.

The special nature of the organization of port freight transshipments, the irregular arrivals of different categories and types of shipments, the large volumes of lightweight cargoes and other factors have made it necessary to take

additional steps to increase the productivity of our freight-handling equipment and adapt them more efficiently to the transshipment of different types of cargo.

The brigade of MAZ-504B drivers, for example, which specializes in the handling of 20-foot containers, uses circulating ChMZAP-9985 semitrailers and detachable MAZ-5205 side semitrailers, which it employs during periods of slower activity in the containerized movement of individually packaged cargoes.

The driver brigade operating the KamAZ-5410 trucks has detachable N10Kh "Alka" refrigerator semitrailers, which are used to ship meat and meat products.

The KamAS-5320's of the brigade specializing in the transshipment of medium-tonnage containers have been modified to accommodate four 3-ton containers (instead of the three accommodated by the standard size vehicle).

A small brigade of drivers operating the GAZ-53A, each occasionally carrying a single three-ton container, has been formed to deliver medium-tonnage containers from the port to customers receiving them in only small quantities and then to off-load the freight upon arrival. With the creation of this brigade the chronic problem of how best to serve the "small" consignee has been removed from the agenda.

We have also formed a special brigade to deliver small-lot shipments from all storage facilities at the port. The brigade has been assigned three KamAZ-5320's and five ZIL-133's with extended sides.

Twelve ZIL-133G's belonging to a brigade specializing in the delivery of particularly lightweight cargoes (mineral wool, coolers, bicycles, felt, wool etc.) have been equipped with 1.5-meter high laticework sides. We plan this year to modify all our ZIL-133's to carry lightweight cargoes as well as wood and lumber up to 6 meters long.

The facility also has a brigade specializing in the transshipment of grain products which operates 15 KamAZ-5320's with semitrailers.

As a result of our organization of specialized brigades and the modification of our vehicles we have been able to increase our cargo capacity-utilization coefficient to 0.848. Implementation of the other measures referred to above will enable us to raise this figure to 0.9.

With the opening of the motor freight terminal's container facility we will be shipping 20-foot containers from the port to consignees located in rayons in the central part of the oblast (as far as 750 km), while a brigade specializing in long-haul, intercity transport will do duty for the longer distances. To improve our truck-mileage use coefficient and increase their efficiency, we plan to haul 70,000 tons of metal scrap for the office of Vtorchermet by loading dump trucks for return hauls.

Last year saw the preparation and adoption of a joint regulation governing the relations between port facility personnel and divisions of the TFE and the dockworkers' and drivers' brigades. We have since seen a trend away from a pattern of mutual grievances filed by organizations against one another and toward more businesslike cooperation.

Each year the motor transport workers conclude a labor cooperation agreement with the port administration. They meet together every quarter to discuss what has been accomplished and outline measures to solve problems causing delays in unloading ships and shipping out the cargoes.

This year we are setting up a single, unified dispatching service provided with intercom links with consignee facilities and storage facilities and docks at the port. This is going to make it possible for us to organize our transport operations on a new, higher level. Work is also under way on the installation of a system of teletype communication for transmitting documentary information between the port, the TFE and the various consignees. Plans also call for the creation of a unified dispatching office to prepare invoices accompanying the individually packaged shipments.

With the objective of being able to solve problems arising to cause any disruption of transport operations on the part of a consignee, the TFE has organized a special section equipped with mobile dispatcher units. Twenty trucks, the mobile dispatcher units and the central dispatching office are all equipped with Lastochka radios. We have just begun this project, but we are already certain that it will be highly effective.

Work is currently under way on the development of a unified system of handling shipments coming in to and leaving the port of Magadan; this involves the resolution of both organizational and technical questions arising in connection with the interaction between not only port personnel and the motor transport workers, but between consignees and the motor transport workers as well. The organizational aspects of this system are now being introduced, and work on the introduction of the technical components of the new system will begin at the end of the year.

We and our allied organizations here are attaching great importance to efforts to organize cargo shipments in accordance with the direct, economically advantageous ship-to-truck scheme. In 1981 we moved 33 per cent of all freight transshipped through the port by this direct method; last year saw this figure rise to 58 per cent. However, there are still a number of problems interfering with the smooth operation of this transport conveyor system.

The loading of ships holds with different types or lots of cargo is one of the stumbling blocks in the way of efforts to increase our volume of transshipments by this method. The arrangement of cargo in the holds of incoming ships will frequently not correspond to the accompanying loading plan. Previously agreed-upon schedules for daily shift unloading operations will accordingly prove unrealistic, which in turn disrupts the entire transport process and freight whose delivery has been unanticipated then turn up at the warehouses.

Port personnel have not yet been able to organize effective control over the movement of freight out of the holds of incoming ships. Freight scheduled for shipment can be off-loaded for the warehouse and then a cargo not planned for transport loaded on the trucks. And these are no infrequent things. As it turns out, it is sometimes we motor transport people who, by not insuring the timely arrival of our trucks at dockside, are the obstacles to more rapid increases in in the volumes of cargo transshipped by the direct method.

The port administration plans to organize the process of distributing cargo at our warehouses to make this more efficient by reducing flows of freight coming in for the various consignees, preliminarily dividing outgoing shipments into smaller batches and preparing the accompanying documentation and by remarking freight arriving with illegible marking or missing labels.

We are suggesting that the port organize to ship out small-batch cargo and remainders from larger shipments in medium-tonnage containers. Some 4000 tons of freight in these categories has now accumulated in our ports.

Since 1981 transport workers have been providing centralized service for the port of Anadyr as well. A special branch organization has been formed within the Anadyr motor transport enterprise to handle these operations. The volumes of freight involved are comparatively small—some 180,000 [tons?], but this is a volume moved during the limited navigation period available (from the end of June through November). Freight is transported an average of 4.4 km here, that is, a third as far as for the port of Magadan. This results in a more intensive motor transport operation.

So the freight volumes transported through the Magadan and Anadyr cargo terminals account for 27 per cent of the total volume of freight processed through the Magadan freight terminal. This also indicates the the degree of responsibility the administration bears for the quality of service provided enterprises and organizations receiving and shipping freight by sea.

As is true for all other freight terminals in the country, the most important way we have of increasing the throughput of our ports and satisfying Magadan Oblast's growing freight transport requirements is to accelerate the development and improve the efficiency of our containerized and packaged cargo shipment.

It should be pointed out here that the USSR Ministry of the Maritime Fleet is engaged in a major effort to upgrade container transport operations. While before 1981, for example, containers on the Magadan route were carried by ships with capacities of from 150 to 250 containers, they are now transported on larger, specialized ships which are designed to carry as many as 350 containers. And the number of ships has grown as well.

Together with the CPSU's Magadan obkom, the transport administration and the territorial administration of USST Gossnab have undertaken an effort to identify freight which can be packaged or containerized and to study consignee requirements in terms of container facilities, machinery and packaging materials and equipment. Plans call, among other things, for the creation of 28 container facilities to receive 20-foot containers and the same number of facilities for medium-tonnage containers. It has been proposed to customers that they fabricate or purchase 2300 medium-tonnage containers and more than 20,000 special-purpose container, 56 cranes for unloading 20-foot containers from the trucks and 180 cranes for medium-tonnage containers.

Implementation of these measures by the maritime port, the transport administration and consignees will make it possible to upgrade Magadan freight terminal operations to higher, qualitatively new levels. This will be a contribution to efforts to enhance the productive potential of Magadan Oblast.



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